The Milroy Lectures

ON

CHANGES OF TYPE IN EPIDEMIC DISEASES.

Delivered at the Examination Hall, Victoria Embankment, on Feb. 21st, 1893,

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LECTURE I.

"Distribution between Quantity and Quality in Epidemic Prevalence.—Grouping of Infective Diseases according to Degree of Mobility of Type.—Its Connotation.—Diseases of Unstable Type.

MR. PRESIDENT AND GENTLEMEN,—The statistical records of epidemic diseases show that from time to time prevalence occurs on a larger or smaller scale, and after a time subsides again, leaving more or less conspicuous traces upon the death-roll. Sometimes the epidemic is so exceptional in point of average severity of attack that attention is perforce drawn to the fact of change of quality, as, for example, the malignant small-pox of 1871 or the attenuated scarlet fever of the last few years; but, as a rule, statistical records, or rather the inferences which are based upon them, tacitly assume that the variation is one of quantity, in the main if not entirely, and that the quality remains practically the same year after year and epidemic after epidemic. This assumption is necessary if death-rates, or even attack rates, are to be taken as the sole measure of the epidemic course; but it is far from being sound, as clinical records and the detailed study of local epidemics abundantly prove. Changes of type—changes, that is, in the quality of the *contagium*—are constantly taking place, rapidly and even fitfully in some diseases, slowly and more rythmically in others. These changes have often a dominant influence over the epidemic course, not inferior even to the mechanical variations due to the thousand and one external conditions which render easy or difficult the transfer of infection from person to person. Something akin to this was implied in the old doctrine of "cycles," which, however, scarcely recognised more than one kind of epidemic and fails in practical application because the cycle is not infrequently interrupted or lost. There are at least two distinct classes of epidemics—those which are and those which are not determined by increased energy of the disease itself. The term "cycle" cannot be applied to both except in different senses. This distinction may serve to clear up some of the irregularities which the cyclic theory in its simplest form leaves unexplained. Perhaps the simplest illustrations of orderly variations in quality are afforded by the malarial fevers. They present a well-defined gradation of types, each bearing a distinctive name. It is convenient, too, to have the problem simplified by the absence of infection from person to person, so that human beings may be regarded as test-objects serving to demonstrate the degree of virulence as well as the time and range of epidemic or endemic prevalence, without acting and reacting one upon another as in diseases of the infectious kind. At definite seasons, under tolerably definite conditions of warmth and moisture, the malarial poison becomes active and infects a larger and larger number of persons until a maximum is reached, after which the number of attacks declines. But, as Hirsch[1] shows, there is a tolerably constant relation between the prevalence and severity of the fever. As the attacks increase in number they increase in average severity, and *vice versâ*; hence increased infectiveness or power of grafting itself on man is associated with increased virulence of the disease so grafted. Whatever the degree of intensity to which the fever attains, the severest type is met with at the height of the endemic or epidemic, the milder forms predominating at the beginning and end. Here, then, are changes of the most unmistakable kind both in quality and quantity, the former dominating and in a sense causing the latter. The change of quality takes place outside the human body in the soil. In scarlet fever and measles there are analogous changes, but they are slower, and less conspicuous owing to the fact that other causes besides intensification of the poison bring about epidemic prevalence, and other causes than attenuation arrest it. Malarial fever shows, too, the real meaning of infectiveness and the purely relative character of susceptibility and unsusceptibility. Under favourable conditions it becomes more and more capable of infecting man; first the more susceptible, then the less susceptible. Thus the attacks grow more and more numerous, for greater and greater resistances are overcome; and meanwhile the most susceptible no longer escape with slight attacks. The intensity of the contagium is increasing, and now that the less susceptible suffer mild attacks the more susceptible are stricken with fever of a graver type. Had the disease been infectious from person to person increased prevalence would naturally be attributed to that cause; but as it is not, an increased infectiveness of another kind has to be recognised—an increased power of overcoming resistance, coincidently with the clinical changes in the average attack, or rather in the most severe varieties met with. And there is another way in which this increased intensity makes itself manifest, and that is by an increased power of grafting itself upon new soil. From time to time malaria extends to localities not usually malarious, and the periods at which the extension occurs are those of greatest intensity in the endemic area. In the permanent foci themselves prevalence occurs every year, but not always to the same extent or with the same virulence or power of spreading into habitually non-malarious regions. The further it travels from its endemic seat, the less severe and less permanent is the infection of the soil: less permanent, because it is found to die down to its former limits sooner or later and first, of course, from the distant parts; and less severe, because the attacks to which it gives rise in human test-objects are less virulent and less numerous. The last that is heard of malaria in a country from which it is departing is a scanty prevalence of the milder forms of intermittent fever.

The epidemic and endemic history of cholera presents many points of analogy. In its endemic foci an annual cycle is manifest, under the influence of physical conditions affecting the soil. The tendency to epidemic extension is greatest at the period of maximum endemic intensity; in other words, the change in quality which gives to cholera its ferocity as regards numbers and severity of attacks in man confers upon it also the power of travel, of grafting itself upon new soil. Its power of overcoming resistance is increased, measured either by human or geographical units. The degree of local infection has still to be estimated indirectly in terms of the number and severity of attacks amongst the population, and although the gradations of severity are less definite and bear less distinctive names than in ague, they range from the malignant and rapidly fatal forms down to those which are undistinguishable from simple diarrhœa. Something of the same kind occurs in diarrhœa, as Dr. Ballard[2] has shown. It reappears year after year, not with the same intensity, under the influence of physical conditions, and especially the temperature of the subsoil. Dr. Ballard finds some indication of a change in quality in the course of the brief annual outburst. Its severity appears to be least at the beginning, and to increase as the season advances; the greater severity being indicated by a lessened interval between onset and death in fatal cases, and also by an increased incidence upon children over one year of age.

In diphtheria a new and important element is introduced—namely, infection from person to person, although an endemic character is still evident. As Dr. Thorne Thorne[3] states, "prevalences of recognised diphtheria are commonly associated in their beginnings, during their continuance and after their apparent cessation with a large amount of ill-defined throat illness." Elsewhere he shows that certain forms of sore-throat, clinically indistinguishable from the rest, are in all probability slight forms of diphtheria; and, further, that all forms of sore-throat, infectious or otherwise, afford a congenial nidus for diphtheria and bring about abnormal susceptibility. A typical diphtheria epidemic, then, is of different quality at different stages; the attacks are most severe at the height of the epidemic, and the slighter forms prevail at the beginning and end. But in an infectious disease it cannot be assumed that the variation in quality is attributable to telluric conditions; for the poison may be passed on from one susceptible subject to another without recourse to soil, and it seems that diphtheria and certain

[1] Geographical and Historical Pathology, vol. i., p. 229 et seq.

[2] Supplement to the Seventeenth Annual Report of the Local Government Board, 1887-8.

[3] Diphtheria, its Natural History and Prevention, p. 218.

other diseases may be rapidly intensified in the process. In Dr. Thorne Thorne's words: "There is reason to believe that attacks of so-called sore-throat exhibit under certain favouring conditions a 'progressive development of the property of infectiveness,' culminating in a definite specific type which is indistinguishable from diphtheria." Such conditions are found in the aggregation of susceptible children at school, in localities where sore-throats are common, and include some of potentially diphtherial character. The type of disease is mobile and capable of rapidly assuming an intense form if the virus is repeatedly transferred from one abnormally susceptible throat to another. There seems to be no reason to doubt that the intensification thus brought about is comparable to that of the purely telluric diseases, except in causation. There are other changes of type of far wider range. Diphtheria was in abeyance, in name at all events, during the first half of the present century; but from 1855 onwards it again became virulent and prevalent. Since then it seems that a less intense type has prevailed on the whole; but in the earlier part of this period diphtheria mortality rose and fell at intervals of about five or six years, as Dr. Longstaff[4] has shown, and from analogy with the almost exactly parallel course of scarlet fever it may be suspected that this cycle was one of varying quality as well as quantity, although statistical proof is wanting. (Several other diseases present a similar curve of mortality, amongst them erysipelas, puerperal fever and acute rheumatism.) Of late years the mortality from diphtheria has again increased, but it has not yet been conclusively shown how far this is due to any increase in the average virulence of the disease and how far to the greater facilities for diffusion.

Erysipelas comes near to diphtheria in many of its characteristics, and especially in its inconstancy of type. Widespread epidemics are not common, but something approaching to a pandemic occurred in America from 1840 to 1860, and was characterised by malignancy no less than by extent. In this country it is better known in the sporadic form or in very limited epidemics. Not long ago it was familiar in hospital experience, and especially where surgical cases were crowded together in wards with insufficient care for cleanliness and ventilation—conditions not dissimilar to those under which diphtheria is liable to assume increased activity. There is aggregation of susceptible persons in a confined space, and the open wound in the one instance may be regarded as analogous to the catarrhal condition of the fauces in the other, affording a ready nidus. However this may be, erysipelas habitually made its appearance under such conditions, often without clue to its origin, and increased indefinitely in virulence. It is capable of existence as a saprophyte or, at all events, under some form not recognised as erysipelas, and its constant association with filth conditions at once suggests itself as a confirmation of the former view.

Acute rheumatism, which Dr. Longstaff[5] has shown to have such close relation to the diphtheria group in its mortality statistics, is not without other indications of affinity. Professor Pel of Amsterdam found evidence of epidemics amongst hospital patients, epidemics which differed one from another in severity and also in the tendency to one or other kind of complication.[6] Plague seems to be closely connected with this group in its relation to telluric conditions as well as to filth and overcrowding. The intervals between epidemics in plague-haunted countries are bridged over by sporadic cases of mild type and scanty infectiousness,[7] and Dickson,[8] writing of an outbreak of the plague in Mesopotamia, states that two or three months previously (in the winter) there was prevalence of glandular swellings unaccompanied by other symptoms. Finally, plague broke out in severer form, reached its acme in the spring and died out during the summer; but on its cessation glandular swellings again became prevalent and continued for two months. The parallelism to diphtheria is close and the evidence of rapid change of type sufficiently clear; and, moreover, under favouring circumstances of squalor and overcrowding—practically an accumulation of susceptible persons—plague, like typhus fever, is apt to make its appearance and spread fiercely, thus raising a suspicion of some intensification of the virus.

Before referring to other diseases of similarly unstable type, it may be well to contrast with them the diseases of less changeable character in order to obtain a broader view of the meaning of stability or instability. These fixed types will, however, be considered more fully in the next lecture. It will be sufficient to take scarlet fever and small-pox for present reference. Scarlet fever is one degree further removed from malaria. It is by no means certain that under ordinary circumstances soil has much to do with the present stage of its epidemiology. It is infectious, and although we cannot affirm that no other cause than direct or indirect infection from another case of scarlet fever can possibly bring about the disease it is at all events clear that the sporadic cases in which it is open to us to suspect other origins are far fewer than in diphtheria, and, moreover, with advancing knowledge of the possible channels of infection, the apparent exceptions are becoming still more rare. Severity of attack and infectiousness rise and fall together, as is shown by statistical evidence on a large scale (to be considered later on) and also by the common clinical experience that malignant cases are more infectious than others under equal conditions. Sometimes the quality of scarlet fever will change almost as suddenly as that of diphtheria, and this is true of epidemics as well as of individual attacks. But, whilst abrupt changes are the rule in diphtheria, they are the exception in scarlet fever. An epidemic lasting only weeks or months is usually fairly constant in type, without the intensification of the kind seen in malarial or diphtherial outbreaks; the type is more stable, though occasionally showing signs of instability. The "progressive increase in the property of infectiveness" occurs no less certainly in scarlet fever than in diphtheria, but it is seldom rapid, and extends usually over a term of years. The type may be persistent for a long period at either the maximum or minimum intensity, and at any phase in its cycle epidemic diffusion may take place, its quality being governed by that of the prevailing phase, and its quantity or extension by the climatic, social or other accidents which give facilities for its distribution.

Small-pox differs from scarlet fever in possessing still greater stability of type, still slower variations in intensity, and still less evidence of any dependence upon saprophytic stages of existence. It is highly infectious, and apparently dependent entirely upon infection for its continued existence. Severe and mild cases may occur side by side, owing to difference in susceptibility, natural or acquired; but unequivocal transitions from mild to severe type, apart from this, are rare, and abrupt changes of epidemic type equally so. There is no sign of the progressive development of infection on a small scale, but nevertheless there is a slow change in virulence, obvious enough in its extreme manifestation in 1871, for example. Although the records prove to demonstration the inhibitory effects of vaccination, they show also traces of a cycle of intensity modified but not obliterated by modern precautionary measures. There seems little evidence to warrant the assumption that small-pox can live on soil or other outside media, or that insanitary surroundings affect its etiology, however much they may interfere with the recovery of those who are attacked. Many writers have dwelt upon the question of the ultimate origin of infective diseases and have suggested that all, even those which have lost all trace of saprophytic relations, may have been developed in the course of ages from harmless saprophytes. Following out this idea, it is interesting to note that most of those which are most inconstant in type and present the most striking and rapid changes in quality retain saprophytic properties in a more or less marked degree. Their contagia are capable of growth habitually or occasionally in non-living media, some of them in earth, almost all of them in artificial media. On the other hand, the diseases which are most stable in type are comparatively free from suspicion of saprophytism. It is precisely these fixed and purely parasitic contagia which have most successfully resisted the attempts of bacteriologists to induce them to grow in artificial media. This is in keeping with their other characteristics and may be regarded as a further illustration of a fixity of character which does not allow them either to adapt themselves readily to new conditions or to undergo rapid physiological modifications. Then again the diseases which are most changeable in type are on the whole most transmissible to lower animals, and, unlike the opposite group, are not infrequently transmissible by milk or water. The degree of protection conferred by an attack affords another point of contrast. It is far more lasting in diseases of stable type, and reduced to an almost doubtful quantity in the mobile group. The tendency to relapses and to a chronic form of the disease is strongly marked in many of the latter, but unknown in the former group. In all these respects scarlet fever occupies an intermediate position between the two extremes. It is allied to the diseases of inconstant type

[4] Studies in Statistics, p. 313 et seq. [5] Loc. cit.
[6] Brit. Med. Jour., Jan. 5th, 1889. [7] Hirsch, vol. i., p. 533.
[8] Epidemiological Society's Transactions, 1879.

in many respects. It affects comparatively few of the lower animals. It is conveyed by milk, but not apparently by water. Relapses are not unknown; in hospital practice they are met with in about 4 per cent. of the cases, but the proportion in private practice would seem to be far smaller, since comparatively few practitioners seem to meet with it at all. Possibly this tendency may prove to be due to hospital conditions, a faint manifestation of the effects of aggregation, which are found in diphtheria and erysipelas. On the other hand, scarlet fever approximates to the older group in its lasting protectiveness and in the stability of type which it usually, but not always, displays. The seasonal curves of mortality,[9] on the whole, confirm the suggestion of similarity of habit amongst the members of the respective groups. Diarrhœa and English cholera are most fatal in July and August; Asiatic cholera a little later; plague (seventeenth century) and dysentery in September; enteric fever is most fatal in September in New York, but in October and November in London; diphtheria, erysipelas, puerperal fever and rheumatic fever are as closely allied with each other and with scarlet fever in their seasonal curves as in the annual course between 1855 and 1880. The more stable and more purely parasitib diseases are most fatal, and presumably most prevalent, in the first half of the year in this country, with the exception of the occasional second maximum of measles in December. They do not, however, hold very closely together in this respect. From the clinical standpoint, too, there is confirmation of the distinction between the constant and inconstant types, apart from variation in virulence. The former are more orderly in the course of the individual attack, more regular in the duration of the successive stages and the character of the symptoms, and less liable to erratic complications, relapses and indefinite continuance in chronic form. Implication of the nervous system especially is a characteristic of many of the mobile class, and the fauces, kidneys and serous surfaces are often attacked. The incubation is usually short, whilst in diseases of fixed type it is usually long.

From many points of view influenza is a typical member of the lower group. It varies capriciously in quality, passing rapidly from mild to severe forms and *vice versâ*, although in particular localities it has seemed to retain a tolerably definite epidemic character during its brief stay. It is infectious in a very variable degree, but scarcely protective, and relapses are common enough. In many instances aggregation of susceptible persons has been instrumental in determining an outbreak, although the evidence of intensification is not clear. The incidence has sometimes been limited to adults; at other times children have suffered in large numbers. The symptoms and complications vary in the most erratic fashion, although here, again, a brief and more or less local constancy has often been observed. There is not much indication of endemicity, though Dr. Parsons finds reason to suspect that it has a more or less permanent focus in the western part of Russia,[10] and in certain parts of England it has remained long enough to bridge over the interval between two epidemics. Thus in the Colne Valley (Yorkshire) it is stated by Dr. Burnley Walker to have been prevalent throughout 1891. Some degree of saprophytism has been established by the cultivation of the specific organism. On the other hand, it has no definite relation to season and little periodicity in other respects. The epidemic of 1847 was preceded and followed by minor outbreaks at intervals of three or four years, but we are now witnessing a fourth outburst within little more than three years. It has been suggested that influenza is, in a sense, always with us; that it is an intensified form of catarrh which is prevalent at all times.[11] In many places in this country the influenza epidemic was preceded by an unusual prevalence of ordinary catarrh, amongst which were scattered, according to some observers, cases having symptoms similar to the epidemic disease. Dr Parsons does not accept this view, but elsewhere he mentions that influenza as a cause of death has never entirely disappeared from the Registrar-General's returns, and that not only was there some indication of epidemic recurrence in 1851, 1855 and 1858, but something very like influenza broke out in Norfolk in 1878 and at Northallerton in 1887. If influenza in horses be really identical with influenza in man, we have high veterinary authority for the statement that it is of frequent occurrence in England. A similarly far-reaching suggestion has been made by Dr. Foxwell,[12] who is inclined to recognise in epidemic pneumonia simply a variety of a general infective catarrhal fever, a "constitutional pyrexial state which has respiratory, cutaneous, intestinal, meningeal and renal varieties, just as there are pulmonary, anginous, nephritic, rheumatic, pyæmic and cutaneous varieties of the constitutional pyrexial state called scarlet fever." Dr. Sadler also recognises an ordinary febrile catarrh of infectious quality, cases of which are often associated with pneumonia, bronchitis and diarrhœa in other members of the household.[13] These views will be considered later. They are mentioned here as tending to show that in pneumonia and influenza, as in diphtheria, the range of possible variation includes forms not generally recognised as akin to the more severe ones. But pneumonia must in any case be classed with the diseases of changeable type. Its epidemics are attended with high case mortality, whether in outbreaks limited to one or two households, or widespread epidemics like that which raged at Middlesbrough in 1888 and was found by Dr. Ballard to kill twenty-one out of every hundred attacked.[14] He quotes from Dr. Grimshaw figures which show that the fatality of Dublin Hospital cases varied in different years from 2·6 to 24·4 per cent. Epidemic pneumonia has come to be regarded as a filth disease, aggravated if not originated by insanitary conditions, and this was confirmed by Dr. Ballard. Unlike the other filth diseases, however, it is most fatal in spring, a circumstance which raises a suspicion that its real affinities may be with the typhus fever group rather than with erysipelas or epidemic diarrhœa. It is saprophytic, in the sense that it can be cultivated in artificial media. Enteric fever on the whole belongs to the same group. The contagium has been cultivated and is capable of living in water and in milk as well as in soil. A probably saprophytic character is also implied by its notorious affinity for filth conditions. Its seasonal curve is not unlike that of erysipelas, diphtheria and scarlet fever. The maximum is in October and November, but in New York it comes earlier and approximates more closely to the season of the more purely telluric diseases. Little is known of its transmissibility to lower animals, and even as regards man the transmission seems to be usually of an indirect kind, like that of cholera. The protection conferred by an attack is slight, and relapses are common. Dr. Spottiswoode Cameron has found reason to suspect that in the Leeds Fever Hospital a larger proportion of relapses and a higher case mortality occurred when the number of patients in a given ward-space was doubled. There is little constancy of type in the instances where infection can be traced from one person to another, a slight attack being often the antecedent of a severe or fatal one, or even an epidemic. There are abundant records of both mild and severe outbreaks, some of which will come under consideration in connexion with milk and water epidemics. The death-rate from enteric fever has for many years been falling, and hospital statistics show that there has been some decline in severity of hospital cases, insufficient, however, to account for the less mortality. Apparently, therefore, there has been lessened prevalence as well. The statistics published by the Metropolitan Asylums Board show that the case-mortality has varied considerably in different years, but neither the hospital records nor the death-rates show any clear trace of the five-yearly cycle which at one time was so conspicuous in regard to erysipelas, diphtheria and scarlet-fever. On the whole, therefore, enteric fever may be regarded as decreasing in severity and still more in prevalence, but exhibiting irregular fluctuations in both respects. Many other examples might be given, but the above may serve to illustrate the broad principle that the contagia which are most changeable in type are those which remain in closest touch with the saprophytic forms to which they are allied.

[9] Buchan and Mitchell: Journal of the Scottish Meteorological Society. Longstaff: Studies in Statistics. Registrar-General: Annual Summary for 1890.

[10] Report on the Influenza Epidemic of 1889-90, p. 103.

[11] Parsons, loc. cit.

[12] The Practitioner, July, 1881.

[13] THE LANCET, July 14th, 1888.

[14] Supplement to the Eighteenth Annual Report of the Local Government Board, 1888-89, p. 196 et seq.

PROPOSED NEW HOSPITAL FOR NEATH.—A letter was read at a special meeting of the Neath Town Council last week, in which Mrs. Griffith Llewellyn offered to place at the disposal of the Council the sum of £500 for the purpose of founding a hospital for the benefit of the poor of the Neath district. The gift was thankfully accepted and the question of selecting a site was referred to the Streets Committee.

ON THE TREATMENT OF ANÆMIA AND CHLOROSIS BY THE CHIEF IRON PREPARATIONS COMMONLY IN USE.

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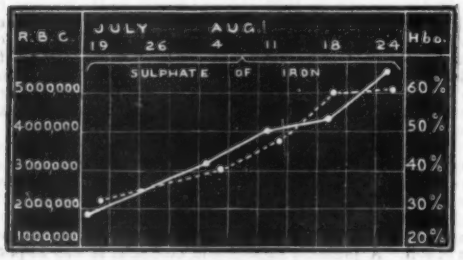
PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH ETC.

(Concluded from page 355.)

CASE 10.—M. M——, aged twenty-two, was admitted to Ward 30 on July 19th, 1892, with symptomatic anæmia, the red corpuscles being about 2,000,000 per c.mm. and the hæmoglobin 30 per cent. The patient was on admission, prescribed sulphate of iron, seven grains thrice daily. In fourteen days the corpuscles had increased to 3,200,000 per

CASE 10.



c.mm. and the hæmoglobin to 40 per cent., and at the end of thirty-five days' treatment the patient was discharged cured, the corpuscles being 5,700,000 per c.mm. and the hæmoglobin 62 per cent.

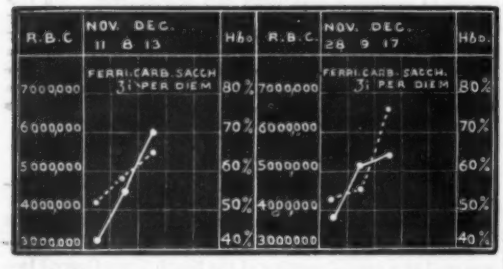
Treatment.—Sulphate of iron: This case well shows the superior efficacy of this iron salt in its comparatively quick and reliable effects in all anæmias and in chlorosis, and in the uniformity of its beneficial effects alike upon the blood cells and hæmoglobin.

Progress.

Date.	Red corpuscles.	Hæmoglobin.
July 17th	1,900,000 per c.mm.	... 32 per cent.
Aug. 4th	3,200,000 ,,	... 40 ,,
,, 11th	4,000,000 ,,	... 48 ,,
,, 18th	4,300,000 ,,	... 60 ,,
,, 24th	5,700,000 ,,	... 62 ,,

CASES 11 AND 11A.—J. C—— and A. C—— were admitted to Ward 33, the one on Nov. 11th and the other on Nov. 28th, both suffering from symptomatic anæmia and nearly in the same degree, except that it was somewhat more advanced in the former and consequently somewhat longer delayed in recovery. Both patients were put upon the same remedy—viz., the saccharine carbonate of iron, twenty grains being given to each, thrice daily, with meals. Between Nov. 11th and Dec. 13th the red corpuscles had increased from

CASE 11.

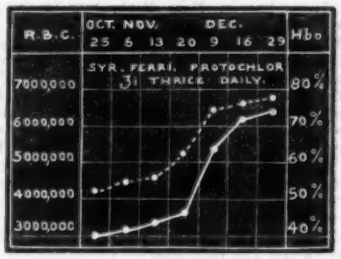


3,400,000 per c.mm. to 6,000,000 per c.mm. in J. C——'s case, and the hæmoglobin from 52 per cent. to 68 per cent., at which time the patient left the hospital cured, the duration of treatment being thirty-two days. The red corpuscles in A. C——'s case at the date of admission (Nov. 28th) were 3,800,000 per c.mm. and the hæmoglobin 55 per cent., and on Dec. 17th, when she left the hospital cured, they had increased to 5,500,000 per c.mm. and the hæmoglobin to 76 per cent.

Treatment.—These cases of treatment by the carbonate of iron may be taken as fairly showing the effects of this preparation of iron in cases of symptomatic anæmia and chlorosis. As a remedy it is well borne in all cases, and is rapid and curative in its effects. It is on these accounts entitled to rank as among the best of our iron remedies, and second only to the sulphate of iron, if not, indeed, upon a par with it.

CASE 12.—J. S——, aged twenty, was admitted to Ward 33 on Oct. 24th, 1892, with well-marked symptomatic anæmia and a progressive history of the disease. The red corpuscles were 3,400,000 per c.mm. and the hæmoglobin 52 per cent. The

CASE 12.



diet being carefully arranged to suit her impaired digestion, she was put upon the protochloride of iron, one drachm thrice daily after meals.

Treatment.—This treatment was continued for sixty-five days, with the result that at the end of that time the red blood cells had increased to 6,500,000 per c.mm. and the hæmoglobin stood at 79 per cent. The drawback to the remedy was its causing sickness with vomiting, on account of which it had to be more than once suspended for a few days at a time, whereby the duration of the treatment was protracted. To avoid this it should be given in smaller doses to begin with, until toleration of the remedy is induced, increasing it from half a drachm to one drachm. Making allowance for this drawback in the use of the protochloride and the consequent delay in effecting cure, it should be ranked as one of the most efficient remedies.

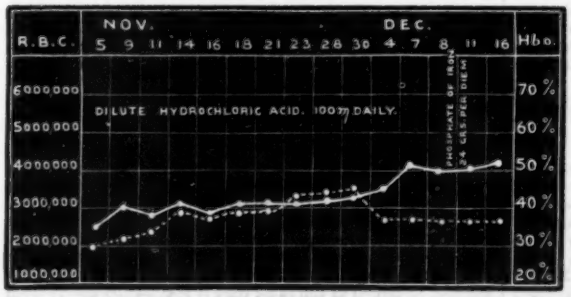
Progress.

Date.	Red corpuscles.	Hæmoglobin.
Oct. 25th	3,000,000 per c.mm.	... 52 per cent.
Nov. 6th	3,200,000 ,,	... 55 ,,
,, 13th	3,500,000 ,,	... 58 ,,
,, 20th	3,700,000 ,,	... 62 ,,
Dec. 9th	5,500,000 ,,	... 76 ,,
,, 16th	6,200,000 ,,	... 78 ,,
,, 29th	6,500,000 ,,	... 79 ,,

CASE 13.—M. W——, aged eighteen, was admitted to Ward 33 on Nov. 5th, 1892, suffering from advanced chlorosis. Her condition was characterised by unusual pallor, prostration, palpitation, with loud hæmic murmurs in the neck and at the base and apex of the heart, amenorrhœa, and a severe type of atonic dyspepsia—the gastric contents showing absence, in a marked degree, of free hydrochloric acid. An examination of the blood showed 3,000,000 per c.mm. of red blood corpuscles, with only 32 per cent. of hæmoglobin. The patient's condition presented a suitable opportunity of testing how far her anæmic state had been brought about in consequence of the atonic dyspepsia which had preceded and accompanied it—more especially with reference to the absence of free hydrochloric acid—so marked a feature in her dyspepsia. I accordingly decided to treat her with hydrochloric acid in the first instance. The treatment was begun on the sixth day after her admission, 100 minims of the dilute acid being given daily in 25 minim doses at a time. Between Nov. 11th and 13th—that is, seven days after the commencement of treatment—the enumeration of red corpuscles and percentage of hæmoglobin remained stationary, the patient, however, taking food much better and her dyspepsia being entirely relieved. From that date to Dec. 16th the red corpuscles increased to 4,000,000 from 2,000,000 per c.mm., but the hæmoglobin remained at 36 per cent., the latter having only increased by 4 per cent. during a period of thirty-six days. This increase was no doubt

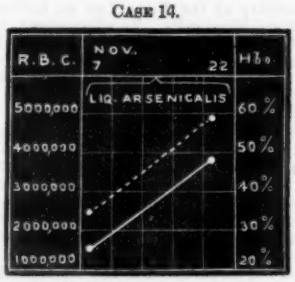
owing to the action of the phosphate of iron which was given during the last week of this period in 24-grain doses daily. At this stage of imperfect recovery the patient left the hospital to go to her home in the country, much against my wish; so that we lost from that time all further account of the case. I have no doubt, however, that had she remained under the hydrochloric acid treatment the red corpuscles would have been restored to their normal number. But it is evident, from the low standard at which the hæmoglobin remained, that her condition would eventually have resulted in her disease being uncured, seeing that the defect of hæmoglobin constituted the essential feature of her anæmia, which, as I have already pointed out in previous cases, is the pathological feature which distinguishes chlorosis from symptomatic anæmia on the one hand and from pernicious anæmia on the other. It follows from the results of this trial that while hydrochloric acid is of great value in improving the tone of the digestive functions generally, no doubt by favouring the digestion of the proteids, it nevertheless fails by itself to restore the hæmoglobin; so that in chlorosis, as in symptomatic anæmia, and even more so, it is necessary to have recourse to some form of iron in order to establish perfect recovery.

CASE 13.



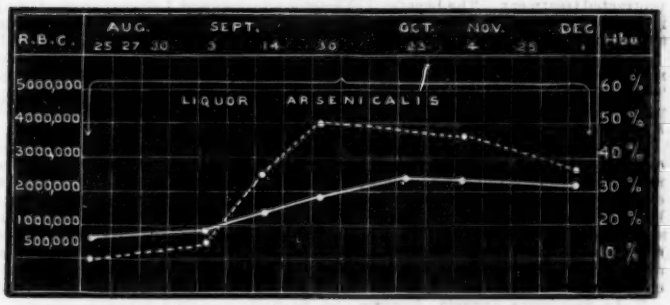
CASE 14.—A. H——, aged twenty-six, was admitted to Ward 30 on Nov. 3rd, 1891, with symptomatic anæmia and secondary erythema nodosum. The red corpuscles were reduced to 1,590,000 per c.mm. and the hæmoglobin to 35 per cent. The patient was prescribed 5 minims, increased to 10, of arsenic (Fowler's solution) thrice daily. After fifteen days the patient expressed a wish to leave the hospital to return to her employment. By that time the corpuscles had increased to 3,850,000 per c.mm. and the hæmoglobin to 59 per cent. The arsenic in this case must be regarded as only indirectly promoting the restoration of the blood cells and hæmoglobin by its direct and primary effect upon the constitutional condition with which the erythema was connected, the anæmia being only a secondary sequence to it. We have, however, had many proofs that arsenic when given combined with the irons coöperates beneficially in some cases in expediting recovery from anæmia, very probably by its improving some constitutional defect upon which the anæmia may partly depend.

CASE 14.



CASE 15.—Mrs. A——, aged fifty-three, came under my observation in the autumn of 1891. An examination showed the red corpuscles to be reduced to 600,000 per c.mm. and the hæmoglobin to 10 per cent. The irregular shapes which characterised the blood discs, the splenic enlargement, the lemon tint of the patient's complexion and her general cachexy left me in no doubt that the disease was pernicious anæmia, and I cite her case to show, by contrast, that while exhibiting iron and other tonics of the same class there was no evident improvement in the amount of hæmoglobin or in the number and character of the red cells until arsenic was added to the treatment. Fowler's solution of arsenic was commenced in five-minim doses thrice daily, which was gradually increased to over double that quantity. This treatment, combined with full doses (ten grains three times a day) of the citrate of iron and quinine, with a specially good dietary, enhanced by the addition of port wine and maltine, after many weeks brought about an improvement in her condition, well shown by the red corpuscles having increased to 2,480,000 per c.mm. and the hæmoglobin to 50 per cent. At this stage in the course of her treatment, at her own request, she left the hospital for her home in the south of Scotland, where she is at present, much in the same condition of health as at the time of her discharge. It should be added that she was under arsenical treatment while in hospital for a period of three months.

CASE 15.



Corpuscles balloon-shaped, tailed, crenated with a number of microcytes.

Progress.

Date.	Red corpuscles.	Hæmoglobin
Aug. 25th	640,000 per c.mm. ...	10 per cent.
Sept. 3rd	910,000 ,, ...	15 ,,
,, 14th	1,450,000 ,, ...	35 ,,
,, 30th	1,810,000 ,, ...	50 ,,
Nov. 4th	2,480,000 ,, ...	45 ,,
Dec. 1st	2,160,000 ,, ...	35 ,,

GENERAL CONCLUSIONS.

1. *Sulphate of iron.*—Of the varieties of iron used in the trials here recorded, the best results have been obtained from the sulphate. This accords with previous experience. It is the preparation which undoubtedly possesses the greatest therapeutical activity, and the one which in the different varieties of the disease and constitutional differences of the anæmic patients may most uniformly be depended upon for satisfactory results. In anæmic patients who suffer markedly, as many of them do, from atonic dyspepsia, and in whom consequently the hydrochloric acid is either greatly deficient or absent, it is of great advantage to their recovery to prescribe from fifteen to twenty-five minims of dilute hydrochloric acid shortly before meals, the iron salt being taken shortly after meals. But on the contrary, to those patients whose stomach complaints are of an opposite nature, being due to excess of acid (pyrosis), acid in any form cannot be given; the substitution of ten grains each of bicarbonate of soda and carbonate of potash before meals will be of material assistance to the stomach by inducing tolerance of the iron and thereby ex-

pediting recovery. In assigning the first place to the iron sulphate as a remedy, I am guided by the whole of the circumstances connected with each of the cases in which the trials were made. As a remedy, it is exceptionally active in restoring the deficient corpuscles, alike in their number and character, and is also notably active in restoring the hæmoglobin in chlorosis.

2. *Carbonate of iron (saccharine).*—Numerous trials with this preparation, only two results of which are shown on the charts (see Cases 11 and 11A), were uniformly of a favourable character in the different types and stages of the disease in which it was given. It is invariably well tolerated, whatever be the nature of the dyspepsia from which the patient suffers. It was given in doses varying from twenty to thirty grains thrice daily during or immediately after meals. On these grounds I consider it entitled to rank as the second best therapeutic iron.

3. *Protochloride of iron.*—This preparation was prescribed in the form of the syrup in one drachm doses thrice daily after meals. Each drachm of the syrup contained seven grains of the protochloride. As, during its administration, it repeatedly brought on nausea and had consequently to be suspended for a time, it would be better to avoid this drawback by giving it at the commencement in smaller doses, increasing it gradually to the one drachm dose as mentioned above. Making allowance for the delay caused in this way by the suspension of the remedy and its liability to induce intolerance, it is entitled to at least hold a third place in the grade of efficacy of these remedies. Recovery under its administration is otherwise in every respect satisfactory and complete.

4. *Phosphate of iron* yielded excellent results only in some of the patients treated by it, but in others it apparently failed, its effects being only appreciable after considerably protracted treatment. The beneficial character was apparent in those types of the disease in which there existed constitutional conditions allied to neuroses.

5. *Iron protoxide.*—This iron in some cases yielded only negative results, but in other cases its effects were satisfactory. This difference in its effects may depend upon individual peculiarities of constitution. It cannot therefore as a remedy be relied upon in all cases.

6. *Arsenic.*—This remedy when combined with iron is evidently useful as an alterative; but, as the result of the trials made with it as the sole remedy showed, it did not appear to exert any direct or appreciable effect on the renewal of the red blood-corpuscles and hæmoglobin in the cases of symptomatic anæmia and chlorosis in which it was tried. When, however, combined with an iron, especially the sulphate, I could not avoid being convinced that the efficacy of the iron was enhanced by the combination.

7. In pernicious anæmia, however, as is well seen in Case 15 (see chart), arsenic exerts a distinctly noticeable effect in promoting recovery alike of red blood-corpuscles and hæmoglobin. Although iron was long and freely exhibited in Mrs. A——'s case, no evident effects of a constructive kind were produced upon the corpuscles and hæmoglobin until arsenic was added to the treatment; and not even then until full doses (20 to 30 minims daily) had been continued for some time. It is, however, rare, and indeed exceptional, in pernicious anæmia, to be able to administer arsenic in almost any dose, except the smallest—that is only a few minims daily—on account of extreme intolerance of it, so that in the majority of cases it is practically out of account as a remedy.

8. It will doubtless have been observed that, in several of the cases referred to, the red corpuscles numerically exceeded, in some instances by 2,000,000 per c.mm., the usual standard number of 5,000,000. This excess having been found repeatedly, I am led to believe that by the treatment being continued a similar result would have been obtained in most, if not in all, the cases. It would appear from this discrepancy that an estimation of red corpuscles at 5,000,000 per c.mm. is too low a standard.

9. On the other hand, speaking with reference to the hæmoglobin, I must observe that I have never yet succeeded in raising the hæmoglobin to a standard of 100 per cent. The highest obtained has never exceeded 90 per cent., and that amount only in instances of exceptionally robust health. My experience therefore leads me to believe that 80 per cent. is a good health standard; and that 70 per cent., or even under, may be taken as a fair average estimate at which patients may be discharged from hospital treatment, provided that the red cells are over 4,000,000 per c.mm. It would appear from these results that our views in regard to the relative estimation of the red corpuscles and hæmoglobin require to be modified in accordance with these trials.

10. I have repeatedly had occasion to notice certain differences between symptomatic anæmia and chlorosis which I have not before seen referred to, but which are of importance as diagnostic signs. In the former the red cells and hæmoglobin do not bear the same definite relation to one another in their decrease and increase which may be observed in symptomatic anæmia. I have several times recorded cases of advanced chlorosis in which there was present a high numerical standard of red corpuscles (over 5,000,000 per c.mm.), while at the same time the hæmoglobin did not exceed 25 per cent. Such cases might not improperly be designated hæmoglobin anæmia, in the same sense that we speak of a pernicious anæmia as corpuscular. The low standard of hæmoglobin in chlorosis represents the chief pathological feature in that disease as do the reduced numbers and defective morphological characters of the red globules in pernicious anæmia. In consequence of the comparatively slow recuperation of the hæmoglobin in chlorosis the recovery of these cases is longer delayed than in those of symptomatic anæmia, and, besides this, there is observed in the red globules a decided proclivity to undergo morphological degenerations. These special differences lead us to regard chlorosis pathologically as a graver type of anæmia than symptomatic anæmia, although at the same time it specifically differs from the pernicious kind.

11. I would here again revert to the very severe type of anæmia referred to at the outset as being put under treatment by hydrochloric acid as the sole therapeutical remedy. I am not aware of this treatment having previously been tried. Many anæmias doubtless originate in defects of the primary gastric digestion caused by either deficiency or complete absence of free hydrochloric acid in the stomach, the consequence of which is that the proteids not undergoing normal metamorphosis are largely thrown out of the system as waste and lost. This method of treatment by hydrochloric acid can only be of use in cases in which there is present that condition of atonic dyspepsia in which the hydrochloric acid is, as I have said, markedly deficient or entirely absent. This type of dyspepsia, however, is characteristic of a large number of anæmias at the commencement of, as well as throughout, their entire course. The result of the trial by hydrochloric acid will be seen by referring to Case and Chart 13. During the forty-two days the patient was under this treatment the red corpuscles increased from 2,500,000 per c.mm. to 4,200,000 per c.mm., and during that long period the hæmoglobin only rose from 30 per cent. to 36 per cent. The patient at this stage of incomplete treatment left the hospital of her own accord. It was evident, however, that, whilst longer continued treatment would have raised the corpuscles to 5,000,000 per c.mm., it would not have materially increased the hæmoglobin from the low standard at which it had apparently become stationary. The result of this clinical experiment, as that of every other, proves that iron in some form is absolutely indispensable in the treatment of chlorosis, as well as of symptomatic anæmia, to effect complete recovery.

12. In each of the anæmias here reported there co-existed chronic constipation, and the urine in each case yielded the roseate colour, with nitric acid, referred to by M'Munn in his "Chemistry of the Urine," as an indication of the destruction of red blood cells. To what extent, if at all, this colour reaction indicates blood destruction through the agency of reabsorbed toxic materials from the prima via, as Sir Andrew Clark suggested, remains to be determined by further investigation.

The following anatomical and pathological distinctions have been suggested in the course of these trials as marking off diagnostic differences between the three grades of anæmia: (1) In symptomatic anæmia there exists a constant proportional relation between the number of red corpuscles and the amount of hæmoglobin. They diminish relatively during the course of the disease and increase relatively during recovery, the iron being deficient as to the whole blood and each cell relatively. (2) In chlorosis the relation between the number of red corpuscles and the hæmoglobin is entirely broken. The hæmoglobin is markedly deficient relatively to each cell and to the whole blood. The low relative amount of hæmoglobin is the chief pathological determining feature in chlorosis and points to the low amount of iron, which in this type of the disease is *par excellence* to be regarded as the specific remedy in its treatment. (3) In pernicious anæmia the normal relation between the red cells and the hæmoglobin is also disturbed. The iron is in excess in each

cell and also in proportion to the whole blood. The great diminution in the number of the red corpuscles and the relative excess of the hæmoglobin in relation to these and to the whole blood are the distinguishing features in this anæmia, so that, as chlorosis may be regarded as a hæmoglobin anæmia, pernicious anæmia may be viewed as a red corpuscular anæmia, that being the chief point of distinction between them. The excess of iron present in the blood of pernicious anæmia plainly contra-indicates its employment in the treatment of that disease, except in small quantities, as an alterative. Arsenic (Fowler's solution) when tolerated and continued by a patient suffering under pernicious anæmia is the preferable remedy. It is, however, only borne in certain cases, and in every case the toleration of it is to be acquired by giving it in small doses at the beginning and gradually increasing it. Quinine is markedly useful in that group of pernicious anæmias in which there is splenic enlargement, and its beneficial effects are enhanced when combined with moderate doses of iron. The best drug in such a case is the citrate of iron and quinine given in full doses. My recent experiences in connexion with the treatment of pernicious anæmia by the transfusion of healthy blood is leading me to attach much importance to that mode of treatment.

A CASE OF LACTIC FERMENTATION IN THE BLADDER.

WITH SUGGESTIONS FOR THE USE OF THE LACTIC FERMENTATION AS A COUNTER-SEPTIC AGENT IN CASES OF AMMONIACAL DECOMPOSITION OF THE URINE AND IN THE TREATMENT OF PUTREFACTIVE WOUNDS AND SORES.

BY SIR WILLIAM ROBERTS, M.D., F.R.S.

SOME months ago I was consulted by a man eighty-four years of age. He looked unusually young for his years and was in excellent general health. He informed me that he had undergone the operation of lithotrity five years before. The procedure was carried out without difficulty, and the bladder was soon declared to be free from calculous fragments. He was, however, advised to use the catheter, as he was unable to completely empty the bladder. He has used the catheter ever since: at first twice a day, and for the last two years once a day. He is now able to void the urine in the natural way, but he is not able to empty the bladder completely except with the aid of the catheter. There is very little irritation of the urinary passages, and he is not usually disturbed to relieve the bladder more than once during the night. He brought with him a freshly voided sample of his urine. The specimen was a remarkable one, and strongly arrested my attention. It was very turbid, intensely acid and contained sugar. Examined under the microscope it was found loaded with bacteria, in the form of micrococci and bacilli, resembling those which are seen in souring milk. There were also numerous torulæ, having the characteristic appearance of yeast cells. Besides these adventitious organisms there existed a good many pus corpuscles and a corresponding (small) amount of albumen. I had several subsequent opportunities of examining the urine; on one occasion the sample was withdrawn by catheter in my room and examined in the absolutely fresh state. All the specimens presented the same essential peculiarities. They were all sharply acid and saccharine and contained myriads of bacteria and numerous yeast cells. The patient complained of none of the usual symptoms of diabetes (there was neither thirst nor diuresis); but he reported that some time ago, for a period of three weeks, he suffered from urgent thirst and an excessive flow of urine and that sugar was then found in the urine by his medical attendant. A remarkable feature of the case, from a clinical point of view, was the maintenance of a sharply acid reaction of the urine and the absence of recurrent formation of phosphatic concretions in the bladder. Here was an old man who had undergone the operation of lithotrity five years ago, who was unable to completely empty his bladder, who used the catheter daily, and who, nevertheless, remained free from ammoniacal decomposition of the urine and free from phosphatic concretions. Conditions more favourable for the supervention of these events could scarcely be imagined—why did they not occur? The explanation, I think, is as follows. The patient is glycosuric; he was probably glycosuric at or near the time of the operation and has continued so ever since. The air and water around us are full of micro-organisms of diverse kinds which are capable of exercising a fermentative action on organic compounds. One group (the lactic ferment, the alcoholic ferment, and the acetic ferment) tend to produce acids; another group (the ammoniacal ferment of the urine and the ferments of common putrefaction) tend to produce carbonate of ammonia. When the germs of these various ferments fall simultaneously and promiscuously into an organic fluid such as the urine there is a conflict for supremacy, and it depends on the composition of the fluid which group shall obtain the mastery. In a non-saccharine urine the issue of the conflict is always in favour of the ammoniacal fermentation, but if the urine be saccharine the issue is always in favour of the acid fermentation. This point was proved experimentally in the laboratory.

In the bladder of this patient three fermentations tending to acidity appeared to be going on concurrently. The chief of these was the lactic fermentation, and lactic acid was identified as the main cause of the intense acidity of the urine. The second was the alcoholic fermentation engendered by the yeast cells, which were always present in the patient's urine. The third was the acetic fermentation, for acetic acid was clearly demonstrated in the distillate from the urine. I failed to obtain direct proof of the presence of alcohol in the urine. The alcoholic fermentation was probably only feeble in degree, and presumably the alcohol generated was usually changed, as fast as produced, by the agency of the acetic ferment into acetic acid. The patient, however, remarked that the urine sometimes had a "vinous smell," so that probably the urine did sometimes contain alcohol. There is no difficulty in accounting for the introduction of the germs of these ferments into the bladder in the present case. The catheter which was daily used furnished a well-recognised means of conveyance, and the patient admitted that he was not over-careful in the observance of antiseptic precautions. Finally, it may be confidently predicted that if the patient at some future time ceased to be glycosuric and still went on using the catheter in his careless way the urine would in no long time be in the grip of the ammoniacal fermentation, and he would then stand in danger of the formation of phosphatic concretions in the bladder. His glycosuria, in fact, protects him from this untoward contingency.

This case gives rise to the suggestion that the lactic fermentation might be turned to therapeutic uses. This agent might be tried in intractable cystitis from ammoniacal decomposition of the urine and in recurrent phosphatic formations after operations for stone. The mischief in these cases is contingent on the establishment of the ammoniacal fermentation in the bladder, whereby urea is changed into carbonate of ammonia. This change, if it goes far, renders the urine irritating to the mucous membrane and provokes cystitis; it also imparts an alkaline reaction to the urine, with consequent precipitation of the mixed phosphates. Now, if we could start and maintain in the bladder a counter-fermentation of the lactic type (and this depends on the presence of sugar), the irritating quality of the urine would be diminished, its acidity would be restored, and the further deposition of phosphates would be prevented. Attempts in this direction might be made by injecting into the bladder a saccharine solution which was in process of lactic fermentation. In casting about for a practical method of carrying out this idea the first suggestion was sour milk, or, rather, sour whey. Souring milk is the typical lactic fermentation. It was, however, found to be somewhat difficult to prepare sour whey in a fit state for injection into the bladder. After sundry trials in various directions the conclusion was reached that for the purpose in hand malt extracts were probably the best available source of a suitable lactic fermentation. The extract of malt termed "bynin" is, from its liquid character and easy miscibility with water, especially convenient for the suggested purpose. Bynin (like other extracts of malt) is already impregnated abundantly with the germs of the lactic ferment, and when it is diluted with ordinary water it passes at once spontaneously into lactic fermentation. Experiments made in the laboratory indicate that water containing from 10 to 20 per cent. of bynin would make a suitable solution. An ounce or so of such a solution might be injected once, twice or thrice a day into the emptied

bladder and retained as long as possible.[1] A course of treatment of this kind continued for a week or two would probably give the lactic fermentation the upper hand, and even enable it to maintain its supremacy—for a time at least—after the saccharine injections had been discontinued; for I have observed that organisms of the lactic type multiply freely in non-saccharine urine, and their presence appears to safeguard the urine to an important degree against the invasion and development of the ammoniacal fermentation. In certain contingencies ammoniacal decomposition of the urine in the bladder reaches an intense degree; not only is the urine alkaline to test paper, but it has a strong ammoniacal smell when voided. When matters are at this pass it would be necessary, as a preliminary step, to irrigate the bladder with an acid solution in order to abate the ammoniacal reaction, because it was found experimentally that the lactic fermentation cannot proceed in the presence of a high percentage of carbonate of ammonia. For this purpose a solution containing ten grains of citric acid in a pint of warm water may be safely used. Two or three pints of such a solution passed through the bladder would suffice to prepare the viscus for the reception of the diluted malt extract, and so render the development of the lactic fermentation within it possible.

The employment of the lactic fermentation as a counter-septic agent in the treatment of unhealthy wounds and sores was suggested by the behaviour of putrescible substances with diluted malt extracts. Pieces of meat immersed in water containing from 5 to 10 per cent. of malt extract did not undergo putrefactive changes. The mixture passed forthwith into lactic fermentation, and more remotely into alcoholic fermentation. Moreover, when pieces of meat were first allowed to become more or less putrid, and were then treated (in the warm chamber) with daily renewed dressings of diluted malt extract, the putrefactive process was speedily arrested. In twenty-four hours the reaction changed from alkaline (ammoniacal) to acid, and in two or three days the putrescent odour entirely disappeared. Corresponding results were obtained with pus and blood. The inference from the experiments was that if fetid wounds, sores, sinuses and abscesses were treated in a similar manner their condition would in a few days undergo a salutary change—a change tending to promote the healing process and to diminish the risk of septic infection.

The above proposals are meant as supplementary to the more perfect antiseptic treatment introduced with such beneficent results by Sir Joseph Lister. In some cases and conditions the antiseptic method is no longer practicable: fermentations of a putrefactive type have already become so firmly established that they cannot be suppressed by any direct antiseptic means. In some of these cases a counter-septic, or meta-septic, method might prove serviceable. The principle of such a method is easily understood. It consists in an endeavour to overcome and supplant a fermentation which has noxious products by a rival fermentation whose products are not noxious. So far as is known the poisonous animal alkaloids (ptomaines) and albumoses are all the products of fermentations of azotised substances; whereas the products of fermentations of carbohydrate substances are innocuous.

ROUGH NOTES ON REMEDIES.

BY WILLIAM MURRAY, M.D.DUBH., F.R.C.P.LOND.,

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NO. I.

ARSENIC IN CHOREA, DIABETES AND ASTHMA.

I HOLD it to be the duty of every practitioner, who has time and opportunity, to publish the results of his work. In doing this he lays himself open to the criticism that "all this or something very like it has been said before"; but this does not destroy the value of his effort, as he is at any rate confirming the work of others, and, generally speaking, the presentation of his facts will possess some features peculiar to the mind of the observer. The following notes are mere scraps culled from thirty years' work, and although they convey but little if any light on the virtues of the host of new remedies which have crowded the market of late years they deal with observations on the value and administration of old and well-tried drugs. It is much more difficult to extract a new virtue from an old remedy than to point out the salient features of new ones. The former lies hidden under the crust of a well-trodden path, the latter lie scattered on the surface, to be picked up by him who tries them first. Let me draw attention to a very old drug which has been given for good or ill in a vast number of all sorts of cases and conditions.

Although so long and widely used, there are still a few conditions in which arsenic has yielded results which are as yet foreign to most text-books on Therapeutics. First of all as to its value in chorea. So little stress has been laid on its efficacy in large doses in this disease that a short historical sketch of my experience of it may help to impress its value. The late Mr. Ralph Linton of Chester-le-Street enjoyed a wide reputation for the cure of St. Vitus's Dance. I have seen the desk in his surgery covered with letters from all parts of the North of England asking for a bottle of his infallible cure. He assured me that he rarely failed to cure this disease in a week, so that one 12-oz. mixture (half an ounce three times a day) was sufficient for the purpose. I could never extract from him even a hint of his method, until I was called to see him professionally on his death-bed, when he told me his secret (please note this was nearly twenty years ago), which was simply this—"that Fowler's solution in fifteen- or twenty-drop doses might generally be given to children for a few days without disturbing the stomach, and that so given it was an almost infallible cure for chorea within a week." The first case of chorea in which I tried this plan was an extremely bad one, and I was quite startled by the rapid and successful result I obtained. Not long after this first case of mine I was asked by my old friend Mr. Sang "to suggest a remedy for a bad case of chorea, which had resisted the usual remedies." He was somewhat staggered by my suggestion of fifteen-drop doses of Fowler's solution; but he tried it and succeeded in curing his case in a few days. I next tried the remedy in one of those cases of violent chorea bordering on mania, and was again rapidly successful. Shortly after this I saw a young girl with Dr. Gibb of Newcastle, who had done all that could have been done by the usual methods. He agreed to try the remedy in five-drop doses at first, which I assured him would not do much good; at our next consultation he agreed to give fifteen drops thrice daily. The child was cured in four days and has never ailed since. I might extend these illustrations to many other equally successful cases, but I need not go further than to say that I have only seen one case in nearly twenty years which has resisted this treatment by large doses of arsenic. My old friend Linton was right when he insisted on a minimum dose of fifteen drops. Ten drops will not do—the dose must reach fifteen drops or more. I need not say the remedy should be taken with food in the middle of a meal, and if it does not act in a week must be dropped, as after that the toxic action of the remedy would come into play and the patient would be injured.

Next comes the value of arsenic in diabetes. I do not observe in the various standard works that much stress is laid on the value of arsenic in this complaint. Yet I have found that the most lasting cures of it have been obtained by that drug. When I see a case of diabetes I follow the usual rules of diet first and put the patient on codeia. When by these means I have reduced the quantity of sugar and the attendant symptoms the next step is to put the patient well under the influence of arsenic and keep up the treatment for three months, during which period he gradually returns to a diet more or less starchy and saccharine. The best form of arsenic for this prolonged course is the liquor arsenici hydrochlorici. It is better tolerated than Fowler's solution and need not be given with meals. Ten drops is a proper dose, repeated thrice daily. I generally give it in combination with hydrochloric acid and strychnia in the forenoon, but without these additions in the after part of the day. The following cases will illustrate and confirm these statements.

CASE 1.—A young gentleman (who is now an active clergyman) was the subject of diabetes several years ago; he tried the usual remedies and the strictest forms of diet

[1] The bynin solution becomes a good deal more active if it be first allowed to stand in a corked phial in a warm room for twenty-four hours. It will then be found to be in full lactic fermentation, and the ferment-organism—or "lactic yeast," as it may be called—clouds the solution and forms a deposit at the bottom of the phial.

without permanent benefit and at last was put on a course of arsenic, which completely cured him.

CASE 2.—A stout old lady consulted me for eczema. Her thirst and dry mouth indicated a diabetic origin for the complaint, and her urine was found to be laden with sugar, its specific gravity being 1044, and the quantity 70 ounces per day. The usual diet and pills of codeia, with lactucarium, soon reduced the quantity of sugar, and I obtained a specific gravity of 1026. The arsenic was then administered over a period of three months, during which the strict rules of diet were gradually relaxed. She has now lived on all sorts of things for more than a year, and her urine is quite free from sugar.

CASE 3.—A gentleman of splendid physique and active habits, a country squire, had felt his health fail him during the year 1891, and had lost flesh and complained of thirst and dry mouth. When first he called on me in August of that year the urine had a specific gravity of 1042, and the daily quantity was 60 to 70 ounces. The tests indicated a large quantity of sugar. His appearance gave me great anxiety, as he had changed from a robust, powerful man into a complete wreck. In this case the usual non-saccharine diet and codeia materially lessened the quantity of urine and reduced its specific gravity to 1028. As no marked improvement in the general condition of the patient took place the liquor arsenici hydrochloricus was tried, and at the end of six weeks the sugar had entirely disappeared, the specific gravity was 1025, and the quantity 50 oz. per day. During the last year (1892) he has gradually returned to his usual diet without the reappearance of sugar, and he now (1893) feels and looks quite well. In this case the arsenic was given for nine months.

It seems to me that advantage ought to be taken of the improvement which usually follows the strict diet and codeia by pushing the arsenical treatment; patients seem *then* to be peculiarly susceptible to the beneficial action of the remedy, and the moment ought to be seized for using it with effect and one should not wait for what is going to happen without it. Let the following case illustrate this.

CASE 4.—A gentleman in the county of Durham developed the usual symptoms of diabetes, and was brought into a fairly satisfactory condition by diet and codeia, but his symptoms did not entirely leave him, and each time he ceased to take codeia and break his rule of diet the sugar returned in large quantities. I could not prevail on him to take the arsenic steadily, and thus he remained more or less diabetic for more than a year. At last he took the arsenic steadily for several weeks, and I was then able to assure him that the sugar was gone and his urine normal. I mention this case as it illustrates the fact that codeia and diet seem to stop short at a considerable reduction of sugar and relief of the urgent symptoms, whilst arsenic steps in to complete the cure. This is also well illustrated by the case of a lady, now under my care, who tried the diet and codeia with great benefit, but the strictest attention to these did not get rid of the sugar, until about ten weeks ago I put her on arsenic and she has now been without sugar for five weeks, whilst her strict rule of diet has been considerably relaxed. It is needless to add to these cases, as I think they sufficiently emphasise the statement that after the sugar has been reduced by diet and codeia arsenic often steps in to effect a cure.

Let me now direct attention to the use of arsenic in asthma. When a patient suffering from spasmodic asthma calls on me. I invariably find the stomach in a wretched state. Such patients are not much relieved by the so-called antispasmodics for asthma, and they are generally vastly disordered by them. I therefore give this somewhat complicated mixture with the happiest results:—Two drachms of tincture of stramonium, one drachm of carbonate of ammonia, three drachms of carbonate of soda, one drachm of carbonate of magnesia, twenty grains of rhubarb powder, twenty minims of chloroform, peppermint water to eight ounces; half an ounce to be taken three times a day with an ounce of water. Having thus secured a temporary lull in the complaint, the patient must at once be put on a course of arsenic, taking care to give just as much as the stomach will bear—lest the prime object be defeated—i.e., to keep the terminal (gastric) twigs of the pneumogastric in a favourable condition. By this means I seldom fail to see a successful result—the patient is not only relieved but for the most part cured by a three months' course of arsenic. A good plan is to give the Fowler's solution—five drops—with breakfast and dinner, and to maintain the corrective dose with stramonium at night. I have referred elsewhere to the action of arsenic in "emphysematous dyspepsia";[1] it may be added here that in emphysema of the lungs, especially of the atrophous form, no remedy acts so well as arsenic, and the chief hope of relief in these intractable cases lies in the proper administration of this remedy. In such cases it is best to give one large dose of the liquor arsenici hydrochloricus in the forenoon, and to give it in combination with liquor strychniæ and hydrochloric acid. I am at present attending an old lady who for years has been broken down by asthma, bronchitis and shortness of breath. Commencing as above with the corrective and stramonium, I have pushed a full course of arsenic and strychnia, and she tells me she now feels quite well. Her breathing is easy, not even wheezy, and is quite inaudible to a bystander. She has gained flesh, has recovered the hue of health, and has lost the yellow and hollow cheek and the purple lips of the old disease. Without the tedium of quoting cases, I lay it down as an honest and strong conviction that arsenic is our best cure, and a very certain one, for a particular kind of asthma. The question is, What is this particular form of asthma to which arsenic is applicable? Note the following points. It is especially useful in the asthma of children and of old emphysematous people. It is not of much use when the case is complicated by bronchitis, nor does it act favourably where a gouty or plethoric state exists. It seems to act best where the nervous system is inherently defective or where the wear and tear of worry or overwork have reduced its stability. The former, inherent or inherited, kind is met with mostly in asthmatic children; the induced kind is found in broken and old people. Of course I do not pretend to have fathomed the secrets of asthma, and it is not exactly known what causes the disease. One can only mention the conditions which usually exist with it. The most unlikely people develop asthma: sometimes after an illness—say influenza—sometimes after a shock or during pregnancy; or they discover it after eating something that never disagreed with them before, or on going to a fresh climate, or from any change of action. But, apart from all these exciting and predisposing causes of asthma, there remains a nerve element at the bottom of most of them which is best treated by arsenic. As soon as the element of gastric disturbance is got rid of, this remedy is the resource and it must have a fair trial by giving it in one way or another over a good many weeks, continuing it with strychnia where nerve exhaustion is much marked and the wheeze chiefly expiratory, combining it with soda, rhubarb and magnesia if these are indicated by digestive disturbances, or with iodide of potassium when this also is indicated.

I must now conclude my observations on this interesting drug, about which so much remains to be said, as its influence is by no means limited to chorea, diabetes and asthma, nor does its curative action stop at skin disease, cardiac affections or atonic dyspepsia. It is the sheet-anchor in a host of neuroses and seems to supply a defect in the nervous system of which all the above conditions are but the expression.

An alternative explanation of the action of arsenic is to be found in its antiseptic or germicidal properties. Sometimes this theory of its action seems to fit in best with the effects produced by it. For instance, in those interesting cases where a patient is the subject of asthma and eczema alternately a remarkable experiment is sometimes seen. There are patients—and I have seen more than one—who for several years have been the subjects of one of three things with scarcely an intermission. He or she is either suffering from asthma, or from eczema, or is under the influence of arsenic. When the asthma ceases eczema appears, when arsenic is administered the eczema disappears, and when the arsenic is discontinued the attack of asthma or eczema gradually returns. How shall this be accounted for? I think in one of two ways—either by assuming a neurosis or by supposing that some microbic poison has its nidus or host in such a patient, and that when its action is subdued by arsenic all is well, and when left to its natural development it finds expression in asthma or eczema.

(To be continued.)

[1] Illustrations of the Inductive Method in Medicine.

LEEDS CHARITIES.—On Feb. 15th, at Headingley, a football match was played between the Leeds Club and the pantomime companies at the Grand and Royal Theatres in Leeds in aid of the local medical charities. The receipts amounted to £552.

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THE PHYSIOLOGY OF DEATH FROM TRAUMATIC FEVER.

A STUDY IN ABDOMINAL SURGERY.

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IN the clinical study of traumatic fever many facts may be observed which indicate that marked disturbance of the vascular system may be associated with a very slight rise of body temperature, and, conversely, that a decided elevation of the thermometric record may occur conjointly with no very evident alteration in the pulse rate. Recent investigations[1] into the physiology of heat production, and of the increased temperature of the body during the febrile process, show that both heat production and heat elimination are under the control of the nervous system and that each may occur independently of the condition of the vaso-motor system. Thus, both on clinical and experimental grounds, we are justified in considering the vascular conditions and the thermal conditions found during a traumatic fever as independent effects of one cause.

The local vascular conditions of an inflamed part.—When an injury is inflicted on the tissues there is brought about a condition of the affected part which Lister has described as "bordering on loss of vitality, but quite distinct from it."[2] The blood does not flow freely through the irritated area and serum and leucocytes are exuded locally. The surrounding vessels are dilated, and through them there is a very free circulation. Other changes may take place, resulting in the formation of cicatricial tissue, but resolution may follow without any alteration of structure.[3] Clinical observation shows that the evidences of local disturbance increase for about three days before signs of recovery begin.

The general changes in the vascular system during an inflammation.—When these local changes are taking place there is a contraction of the vessels throughout the body,[4] and this also in normal conditions reaches its maximum in about three days. It is usual for the pulse to become quicker and smaller at the same time that the temperature rises, but there is sometimes a marked divergence between the degree of the changes in the pulse and of those in the temperature. The heart action may be comparatively slow, and when this occurs the character of the pulse may be full and hard, or small and feeble. If the temperature be high after an operation, and the pulse at the wrist be small and feeble but slow, there is a bounding impulse in the large vessels, and there are loud, distinct heart sounds, with an accentuated second sound in the aortic and pulmonary areas. These conditions indicate distinctly that there is a rise of blood-pressure, and that this is brought about by increased resistance in the peripheral vessels. It is obvious that the heart is beating powerfully, whilst the pulse is small and feeble. We must conclude, therefore, that although a small weak pulse may of course be due to debility of the heart, yet *feebleness of the pulse at the wrist is not necessarily an indication of cardiac weakness.* The small vessels may be so contracted that the blood-flow is almost excluded from them. The force and fulness of the pulse beats must be taken only as an index of the strength of the heart relatively to the obstruction induced by the contraction of the vessels between the artery examined and the heart. The heart action may be very strong and yet the pulse may be very feeble, or may even be absent in some of the vessels. Although the signs of this extreme contraction are only to be made out clinically in cases in which the heart continues to beat slowly, there can be no doubt that a similar contraction of the vessels takes place in all cases. If there be no complication the evidences of general disturbance of the vascular system disappear when the local abnormal changes are recovered from.

The relationship of the local vascular changes to those of the vascular system generally in inflammation.—A local increase of resistance to the blood-flow through an inflamed part would fully account for the contraction of the vessels throughout the body and for the rise of blood-pressure which takes place.[5] But there is an area of vascular paralysis around the inflamed centre which must tend to diminish rather than to increase the local intra-vascular pressure, so that a local increase of resistance to the blood-flow cannot be the cause of the general contraction of the vessels. It is obvious, however, that the effect produced on the nerves of the inflamed area—on the nerves of the tissues in which stasis exists—must result in an impression on the vaso-motor centre that blood is not flowing through the part; that although surrounded by an unusually active circulation there is in these tissues a want of fresh blood. The intensity of this impression on the nervous centre will increase with the extension of the local action. An attempt may be made on the part of the vaso-motor system to satisfy the necessity for an increased supply of blood to any particular area in two ways—namely, by local vascular relaxation or by a general contraction of the vessels throughout the rest of the body. Both these conditions are produced by an inflammation. The dilatation of the vessels surrounding an inflamed area was shown by Lister to be a local condition which may be produced in the limb of a frog after it has been separated from the body.[6] The object of this vascular relaxation may well be to admit more blood to the inflamed part. But, however great the calibre of the minute vessels may become, there still remains the central area of stasis and diminished blood-supply. It is obvious that the continuous want of fresh blood in this area is an adequate cause of the general contraction of the vessels which occurs. It is, on the other hand, believed by many that the phenomena of traumatic fever are always due to the existence of morbid matter absorbed from a wound and circulating in the blood. Even in aseptic conditions it is said that a "hypothetical substance, 'pyrogen,'" is produced from the damaged tissues and is the cause of fever. In support of this view it is asserted that all the component parts of wound discharges are pyrogenous.[7] Without doubt wound discharges and other substances, if injected into the blood stream, do act on the vascular system and on the heat-regulating mechanism. Certain substances, also, which are produced in putrefying animal matter and in unhealthy sores, if introduced into the system, even in small quantity, either by injection or through a wound, will kill the patient with absolute certainty. This is not to be denied, but it is the object of this communication to show that the phenomena of fever, and now more particularly the vascular changes, may be explained without assuming the existence of any such poison, that, in fact, the changes which constitute the febrile condition are caused by peripheral irritations acting through the nerves on the nerve centres, a view which has already been ably advocated from another standpoint by Dr. Hale White.[8] The conditions under which the individual constituents of healthy discharges may be separately introduced into the blood stream are widely different from those which exist in the case of a healthy wound. It seems to me that when fever is increasing, as the result of a healthy inflammation in a wound, vital action in the immediate neighbourhood of the injured part diminishes. The tissues become partially devitalised, whilst the blood and other fluids become stagnant. If the parts be kept absolutely quiet, resolution may take place with very little constitutional disturbance. But if local action be severe all the appearances which may be observed indicate that the exuded matters remain in the tissues of the inflamed part till resolution begins, while beyond the area in which this exudation occurs there is no evidence that the blood is altered directly by the local changes. If the irritation be sufficiently severe, the central parts may actually die and be separated as a phlegmon. Thus during the advance of a healthy inflammation it would seem that there is very little, if any, evidence that new products are thrown into the circulation from the action taking place in the injured parts. Absorption of serous matter must take place if union by first intention results when a wound is closed without due provision for drainage having been made. But the more quickly the absorption takes place the less is the disturbance of the pulse and temperature. It is when the discharges are not absorbed, when they collect between the lips of the wound or in the surrounding tissues and remain there, that febrile reaction runs high. With

[1] Macalister: Gulstonian Lectures, Brit. Med. Jour., vol. i. 1887, p. 670.
[2] On the Early Stages of Inflammation: Philosophical Transactions, vol. cxlviii.
[3] Watson Cheyne: Heath's Dictionary of Surgery, Art. "Inflammation."
[4] Broadbent on Fever: Quain's Dictionary of Medicine.
[5] Landois and Stirling's Physiology, fourth edition, p. 141.
[6] Philosophical Transactions, vol. cxlviii., loc. cit.
[7] Victor Horsley: Heath's Dictionary of Surgery, vol. ii., pp. 367, 368.
[8] The Heat Centre Theory from a Clinical Point of View: Guy's Hospital Reports, 1884. The Theory of Pyrexia: American Journal of Medical Science, Nov., 1890, and other papers.

the spread of the local process there is a corresponding increase of the febrile phenomena. When inflammation is undergoing resolution the case is different. Then absorption of exuded solids and fluids must occur. There are probably unusual chemical reactions taking place locally, and resulting in abnormal chemical products, some of which must pass into the circulation. At this time, however, the contracted condition of the vessels and all the other indications of fever are subsiding.

The condition of the vessels during shock.—A study of the phenomena to which the term "shock" has been given throws light on the question under consideration. It is very generally asserted that the condition of shock is due to a paralysis and dilatation of the vessels, especially of those governed by the splanchnic nerves,[9] and it has been experimentally proved that these vessels may be so dilated as to produce symptoms like those of hæmorrhage.[10] There seems, however, to be reason for believing that in shock a contraction of the vessels occurs as in fever. If shock were due to a paralysis and loss of tone in the vessels it would be most likely that we should find the signs which may occasionally be observed in shock as in traumatic fever—namely, a small, feeble pulse with a strong, powerful, *slow* heart action. In one case, I noted immediately after an operation an almost pulseless condition at the wrist, whilst the heart was beating forty-eight times to the minute and manifestly with great force. The evidence to be derived from experimental inquiry is also in favour of the view that there is a contraction of the arteries in shock, for the stimulation of any sensory nerve seems to bring about a constriction of these vessels.[11]

The effects of exposure to cold in shock and in fever.—Exposure to cold after an injury greatly increases the severity of the symptoms of shock; indeed, a condition closely resembling that of shock may be induced by cold alone. The direct effect of cold is to cause a constriction of the exposed capillaries and a consequent increase of resistance to the blood flow through them. In health the influence of the vaso-motor system immediately comes into play, causing dilatation of the vessels leading to the parts where the capillary circulation is obstructed and also reflexly throughout the body. This is the healthy action caused by exposure to cold and is obviously opposed to the condition of contraction of the vessels produced in fever. This action, therefore, seems to afford an explanation of the beneficial effect of cold applications in febrile conditions. In accordance with this view an immediate improvement of the pulse may often be noted when an ice-cap is used. If, however, the temperature of the surface be lowered too much the obstruction in the superficial vessels becomes so powerful that the compensatory dilatation of those leading to the surface is not sufficient to counteract the opposition to the blood-flow induced by the cold. The second action of the vaso-motor system then comes into play. The vessels elsewhere contract so as, if possible, to force the blood into the skin. The condition of shock may be thus produced and this seems to be the explanation of the collapse which sometimes takes place when cases of high fever are treated by the cold bath. The internal parts of the body are the last to be affected by cold; hence in shock, unless death be instantaneous, the circulation goes on longer in the internal and warmer areas of the body. We therefore find an "enormous distension of the abdominal vessels." This, however, is not the cause, but a consequence, of the mode of death. It is to be particularly noted that in shock there is no time for the development of any poison; the symptoms must be due entirely to nervous action. It follows that the same effect may be of nervous origin in traumatic fever also, and it seems more rational to attribute the pulse phenomena to the action of a mechanism which is known to exist than to the presence of a hypothetical poison acting in a manner not known. A general contraction of the vessels will, however, tend to set in action those nerves which indicate that a greater supply of blood is required by the various tissues. This must act as a check on the extent of the vascular constriction, and therefore the condition of the vessels during a traumatic fever depends on the comparative strength of the reflex stimulus to contraction arising in the inflamed area and of the normal regulating force of the vaso-motor system.

The effect of constipation and obstruction of the bowels on the condition of the vessels in traumatic fever.—It is well known that if constipation be permitted to continue after an operation an exacerbation of the fever is apt to take place. In abdominal surgery serious disturbance, and even death, may be induced by retention of the contents of the bowels after an operation. The symptoms produced by this condition have been very generally mistaken for those of peritonitis. The diagnostic signs which distinguish inflammation of the peritoneum from a simple retention of flatus after an abdominal section had not, so far as I know, been differentiated until I published a paper on this subject in the autumn of 1887.[12] About a month after my paper was read before the Medical and Chirurgical Society of London Professor Olshausen made a communication to the Obstetrical and Gynæcological Society of Berlin,[13] in which he advocated views to some extent similar to my own on this subject. He gave the cause of death in these cases the excellently descriptive name of "pseudo-ileus." Six months later Dr. F. Verchère[14] published a paper in which he also described death from paralysis of the intestine following abdominal operations. Both these writers stated that this mode of death had not previously been described. Their papers seem to be attempts to define the same class of cases as those which I had described; but the conclusions which have been come to by Olshausen and Verchère differ widely and in most important respects from those which I have arrived at. This is a convenient opportunity for further discussing this question, as the conditions found in cases of pseudo-ileus throw light on the causes and also on the effects of contraction of the arteries in inflammation. During an abdominal section there is obviously a considerable likelihood that the various coils of intestine may be disarranged and may be left in such positions that the downward passage of the contents of the gut will be hindered. The peristaltic action of the intestines usually unfolds any awkward turns which are thus produced in its lumen; but adhesions may take place very quickly, and may so absolutely fix the bowel in an unfavourable position that only considerable force will release it. The exposure and manipulation of the bowel also produce a temporary partial paralysis which favours the formation of adhesions and diminishes the likelihood of the bowel being released by the force of peristalsis. When death takes place in these cases evidences of peritonitis are usually found post mortem, but if the abdomen be reopened with a view to relieving an obstruction no peritonitis may be found, although the symptoms are well established, and sometimes after death there is no sign of this disease. Again, it may often be observed that when the symptoms are progressing they suddenly subside with the escape of flatus.

When retention of the contents of the bowel occurs the condition of the patient is a most dangerous one. In a typical case of pseudo-ileus it is important to note that the signs and symptoms are exactly those of an uncomplicated case until an amount of fluid and gases sufficient to produce symptoms of obstruction has collected in the intestine. If there be no other complication the initial symptom is usually distension of the abdomen, and this is first seen on the second or third day after operation, at or about the time of the highest temperature and pulse naturally arising from the traumatic fever. The thermal and vascular systems may show a tendency to assume their normal conditions whilst the distension increases, but if relief be not obtained there is always a return of the rise of the temperature and pulse. This may occur at a very variable period, from a few hours to two or three days before death. The pulse and temperature may rise together, but in these cases a most marked divergence between the extent of the changes in the pulse and in the temperature may be observed. The pulse-beat invariably becomes small and feeble as the abdominal distension becomes greater. The small pulse is due to contraction of the vessels of the body generally. The distension of the walls of the gut must lengthen, narrow and compress its vessels and so cause an increased resistance to the flow of blood through them. This produces a reflex constriction of the arteries throughout the body and a general rise of blood-pressure. As this occurs when the vascular tension is already high from traumatic fever, it is obvious that the effect on the pulse must be very great. Consequently in peritonitis with distension there is invariably found a very small thready pulse. That the small pulse in cases of pseudo-ileus

[9] Mac Cormac: Quain's Dictionary of Medicine, Art. "Shock." Payne's General Pathology, p. 153. H. C. Wood on Fever, p. 98. Victor Horsley: Heath's Dictionary of Surgery, vol. ii., p. 434.
[10] Landois and Stirling's Physiology, fourth edition, p. 837.
[11] Lister: Philosophical Transactions, vol. clxviii., p. 611. Landois and Stirling's Physiology, fourth edition, pp. 748 and 855.

[12] On the Condition and Management of the Intestine after Abdominal Section: Medical and Chirurgical Transactions, vol. lxxi.
[13] Centralblatt für Gynecologie, January, 1888.
[14] Revue de Chirurgie, July, 1888.

following abdominal section is not necessarily due to cardiac debility is shown by a comparison of the pulse with the condition of the heart and large vessels, which in not a few cases reveals the same relationship as exists in traumatic fever and in some cases of shock—namely, a small feeble pulse with a strong heart action.

(To be continued.)

A CASE OF HOMICIDAL STRANGULATION IN AN ADULT, WITH EXTENSIVE FRACTURE OF THE LARYNX.

BY THOS. STEVENSON, M.D., F.R.C.P.

AND

WILLIAM CARLING, M.B., B.C. CAMB.,

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THE deceased was a medical man, who was garotted in the Borough in October last. He was forty-two years of age, of good physique and well nourished. He had practised abroad for some years, and was described by his friends as a very temperate man. On Oct. 11th he was alive and well, and was in the company of his friends and relatives, who did not notice anything peculiar about him. He did not return to his lodgings that night, although he was expected. How the night was spent is not known, but very early on the morning of the 12th he visited a public-house in company with a woman. They drank together and were seen several times during the morning visiting other houses. Eventually about midday the woman disappeared and left him in the company of three or four men. The men took him to a beerhouse, where he drank a glass of ale, notwithstanding the fact that he was already somewhat under the influence of alcohol. He left the beerhouse and went down the street in company with three of the men, two of them supporting him by the arms. All four walked abreast, linked arm in arm and singing, till they came to a somewhat dark and narrow passage, the back entrance to a public-house. One of the men kept a look-out at the street end of the passage, whilst the other two proceeded to rob, and, as it subsequently turned out, to strangle the man. Within five minutes after entering the passage the three men were seen to emerge from the front of the public-house, and their victim was found on the asphalted floor of the passage insensible and doubled up. He lay chiefly on his right side, his head flexed on the chest and rotated so that the right side of the forehead rested on the ground. The right arm was held straight down by his side and the left hung loosely over the chest with the palm on the ground. The right leg was doubled up under him, and the left projected from the body at nearly a right angle. He was thought to be alive and in a fit. His shirt collar and sailor-knot tie were very tight. The tie was cut and his collar released; and as he was lifted on to the ambulance he is said to have breathed his last. Froth was then issuing from his mouth and nostrils.

On his admission to hospital, about twenty minutes after he had been seen walking down the street, there were no signs of life. The body was warm and limp, and the face was of a dusky tint; the pupils were neither contracted nor dilated; no odour was noticed about the mouth, nor was there any froth about the face; the tongue was not protruded. He was carefully examined for external marks of violence. On the neck the only external sign of violence found was a small crescentic mark, with its concavity upwards, situated about the level of the cricoid and a little to the right of the median line. There was an abrasion, apparently some hours old, over the second joint of the middle finger of the left hand; a recent small bruise was found just below and to the inner side of the left knee; and there was a small fresh abrasion over the left side of the chin.

Twenty hours later it was noted that rigor mortis was well marked and that the body was cold. There was then much cadaveric lividity, more especially about the neck and shoulders; the features were calm, but of a singularly leaden and ashy hue; the ears and lips were intensely livid; the upper part of the forehead and the top of the bald scalp were covered with minute dusky spots of ecchymosis; the eyelids were nearly closed, and the crescentic mark on the neck had assumed a dark-purple colour. Nowhere else on the neck was there any ruffling of the cuticle or sign of violence. The hands were semi-clenched.

The post-mortem examination was made forty-eight hours after death. The external appearances were those already described. The scattered petechiæ on the forehead and scalp were well marked and varied in size, being from about as large as a pin's head to three or four times that size, or perhaps a little larger. There was no subconjunctival hæmorrhage. The tongue was in contact with the teeth, but not indented, nor had it been wounded. There was much dark blood effused amongst the tissues and muscles of the neck, reaching as high as the hyoid bone and as low as the top of the sternum. The effusion was around the larynx and trachea, but was more extensive on the right than on the left side of the neck. The cricoid cartilage was seen to be fractured, and the larynx felt broken on the right side. The epiglottis was raised; the glottis was free from any obstruction. The tracheal mucous membrane was very much injected. The large bloodvessels of the neck were uninjured. A small quantity of partially digested food had regurgitated into the lower part of the œsophagus. A subsequent and more minute dissection of the parts about the larynx showed that the hyoid bone was broken on the right side just external to the lesser cornu. The thyroid cartilage was found fractured in three separate places. The line of rupture of the largest of these fractures ran a little obliquely downwards from the V-shaped notch in front to the lower border of the cartilage a quarter of an inch to the right of the median line. Both the superior cornua had been broken off, the one on the right being distinctly separated. The fragment containing the left cornu was much larger and its line of fracture more extensive, although its displacement was not so great as that of the right cornu. The cricoid cartilage had been completely snapped five-eighths of an inch to the right of the median line. The broken ends of the cartilage overlapped, the posterior one resting on the anterior. Around the various fractures blood was extravasated, especially about the one in the cricoid. The visceral pleuræ showed silvery-looking patches of emphysema. The lungs were full of air. A little dark-coloured blood was found in the smaller bronchi and air-cells. Two small patches of hæmorrhage into the substance of the left lung were cut through. The bronchi were hyperæmic, and no obstructions or foreign bodies were found in any of the air passages. The heart was not enlarged and was contracted. The pericardium was healthy. Over the left ventricle, beneath the pericardium, was a patch of pin-point ecchymoses covering an area an inch in length by one-third of an inch in breadth. The right ventricle contained a little dark clot and fluid blood; the left side cavities were empty. The stomach contained a partially digested meal; the mucous membrane and walls were healthy and showed no sign of an irritant poison having been taken. A minute analysis of the contents of the stomach and of the viscera failed to give evidence of poisoning. 6·25 per cent. by volume of alcohol was extracted from the stomach contents, indicating that something stronger than beer had been drunk, since the ordinary beer of the district contains only about 5·25 per cent. by volume. The kidneys were a little hyperæmic but healthy, as, indeed, were all the organs of the body. The brain and spinal cord presented no abnormal appearances to the naked eye. There was no extravasation of blood beneath the scalp, and there was no fracture of the skull or of the vertebræ.

There does not appear to be any reasonable doubt that the unfortunate man was seized by the throat whilst extreme direct violence was applied to the larynx. In fact, one of the culprits made a statement to another prisoner confirmatory of this theory. Whilst standing in front of the deceased he placed his left hand over the victim's mouth and with his right hand inserted between the collar and neck he grasped or pressed with force on the windpipe. As the result of such an assault insensibility would almost immediately follow and no cry for help would be raised, nor could any effectual resistance be offered by a man in such an incapacitated condition. The absence in this case of marks of external violence is not a little remarkable. Notwithstanding so extensive a fracture of the larynx and hyoid (the seat of injuries covering an area that measured two inches and a quarter vertically), an inconspicuous semi-lunar mark, suggesting the pressure of a collar-stud or finger-nail, was all that was found when examining the skin of the neck for signs of violence. It is worth noting that the post-mortem appearances found in this case are in accord with those described by Tardieu and met with by him in cases of strangulation.

The peculiar leaden and ashy hue of the countenance was early observed, and the rapid onset of hypostatic congestion was well marked. The ecchymosis of the scalp and the silky grey looking patches of emphysema over the lungs were quite characteristic. The extensive fracture of the larynx in this case is of extreme interest. Such an injury occurs but rarely. With the exception of a case of fracture of the larynx, met with in the dissecting-room and placed in the museum at Guy's Hospital by Mr. Arbuthnot Lane, we have hitherto had no specimen of a similar kind. Only one case of strangulation, which was accidental and not fatal, has been admitted into the wards of the hospital during the last thirty-three years. Strangulation of an adult is an event of rare occurrence, and the homicidal strangulation of an adult is so rare that, in spite of the long experience of one of us as a medical jurist, we have never before been able to make a necropsy in a similar case.

ACUTE INFLAMMATION OF THE GALL-BLADDER SIMULATING CLOSELY ACUTE INTESTINAL OBSTRUCTION.

By W. ARBUTHNOT LANE, M.S. LOND.,
ASSISTANT SURGEON TO GUY'S HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN.

A LICENSED VICTUALLER aged fifty-four, a fairly robust man, had suffered from many attacks of bronchitis and gout. Eight years ago he had an attack of abdominal pain and diarrhœa, and three years since he had another attack. On neither occasion was he jaundiced, nor did he have any pain in the region of the liver or gall-bladder. On March 29th, 1892, while drinking a glass of lemonade at the end of a rather hearty supper, he was seized with a sudden and severe pain in his abdomen, which "doubled him up." This continued and was accompanied by frequent vomiting. He was seen by Dr. Robert Nichols, who, from the sudden onset of the symptoms and their character, suspected acute intestinal obstruction from band. He strongly advised early operative interference, but the man would not consent. On the following day the vomiting became less frequent and then ceased. The pain in the abdomen was very severe and the patient was unable to take any food as it produced vomiting, which caused him much distress. The abdomen became much distended and the pain and distension were somewhat more obvious on its right side. This condition of things continued to increase in severity till April 2nd, when Dr. Nichols obtained the man's consent that I should be called in. From the onset of the attack the patient's bowels had not been opened. I saw him that evening and found him in a very prostrate condition, with a small, rapid pulse and a very distended, painful and tender abdomen, the hardness and fulness being most distinct about the right hypochondriac region and its vicinity. I was unable to obtain any evidence whatever of biliary colic or of any previous trouble in the gall-bladder, or of attacks of intestinal obstruction, and as far as his pain and tenderness would permit I could make out nothing wrong in the right iliac region, though the cæcum was apparently very much distended, as also was the small intestine. There was no sign of distension of the colon to the left of the middle line. I concluded that there was some obstruction of the large intestine immediately beyond the hepatic flexure. I therefore cut down on the colon in this situation and on opening the peritoneal cavity found a very thick layer of firm lymph covering the edge of the liver, and extending down over the adjacent transverse colon. Beyond this point the colon was empty, while the ascending colon was much distended. On peeling off the lymph from the transverse colon, to which it was intimately adherent, I found the duodenum immediately beneath covered with the same cake of inflammatory material, and in immediate relation with both these structures and covered by the same mass of lymph I found a tensely distended livid gall-bladder which was not larger than normal, and was evidently very acutely inflamed. The whole of the lymph was carefully removed, and the gall-bladder was first tapped and its contents, which consisted of a thick muco-pus, were removed. The opening was then enlarged and its edges sutured to the margins of the peritoneum, a large drainage-tube being fixed in position. No stone was found at the operation, and the patient's feeble condition did not encourage one to prolong the search. He was very restless and delirious for some time after the operation. His bowels acted freely within twelve hours. He gradually progressed to complete recovery, though for a considerable time mucus continued to escape from the fistula, which remained. It is difficult to explain the very acute onset of the symptoms in this case. Even if a calculus had suddenly become impacted in the cystic duct, such an abrupt and violent origin of pain and vomiting as he displayed was hardly to be expected. A point of much interest was the peculiarly local effect of the lymph in paralysing the transverse colon and duodenum, and preventing the passage of intestinal contents through the affected part. The removal of the lymph, with the cause that determined its development, soon permitted the affected segment of the hepatic flexure to recover its functions and to transmit the intestinal contents penned up behind it.

Another very similar but less severe case has since come under my observation. It occurred in an old lady aged seventy-two; but in her case the condition was readily diagnosed, as she had from girlhood been subject to attacks of indigestion and other symptoms indicative of a distended gall-bladder. Though she did not refer her pain to the position of the gall-bladder, this structure could be distinctly felt and was very tender.

St. Thomas's-street, Borough, S.E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

DEATH UNDER CHLOROFORM.

By J. HOWARD WILKINSON, L.R.C.P.LOND., M.R.C.S.ENG.,
RESIDENT MEDICAL OFFICER, GUEST HOSPITAL, DUDLEY.

A LABOURER aged sixty-three was admitted to the Guest Hospital, Dudley, on Dec. 10th, 1892, suffering from advanced cancerous disease of the anterior part of the tongue on the left side. The floor of the mouth was involved in the growth and the glands below the jaw on the left side were implicated. Articulation and deglutition were difficult owing to the disease. The man was told that he could not be cured, but that possibly something might be done to relieve him if he was willing to undergo the risk of an extensive operation. As he was most anxious to have an operation performed he was admitted to the hospital. The history was that the growth had existed for three or four months, but he had not been well for twelve months. The man was somewhat wasted, but appeared, except for his disease, to be otherwise organically healthy. The lungs and heart were carefully examined, but no physical signs of disease were detected. The urine was free from albumen and sugar, but contained a deposit of urates. The pulse was good and presented no evidence of arterial degeneration. The patient was ordered a diet of three pints of milk, a pint and a half of strong beef-tea and two ounces of whisky in the twenty-four hours and to remain in bed for a week. On Dec. 18th Dr. A. S. Underhill decided to operate at twelve noon. The patient was given one pint of beef-tea and half an ounce of brandy at eight o'clock, and was taken to the theatre at twelve. The heart was again examined when he was on the table. As it was impossible to give ether, chloroform was administered, the method adopted being that with a small wire frame covered with a single thickness of lint, the chloroform being sprinkled upon this from a drop bottle. The man did not take the anæsthetic well at first—there was some struggling and rigidity; but after about six or seven minutes he became fully anæsthetised, there being no corneal reflex, and the respiration regular and accompanied by snoring. The operation was now commenced with the usual incision for ligature of the lingual artery on the right side. As it had been decided to tie both vessels at the outset the inhaler was now removed from the face for two or three minutes, the patient being deeply narcotised, until the artery was exposed. As Dr. Underhill was about to ligature the vessel the patient moved his head and, the corneal reflex

having returned, the inhaler was again applied to the face and a little more chloroform sprinkled on from the drop bottle. The patient now suddenly became intensely rigid, the face blue and respiration arrested, but the pulse in the carotid, which had been observed throughout, continued to be perceptible for a few beats. The operation was at once stopped, the patient's head and shoulders were brought over the end of the operating table, and artificial respiration was commenced at once by Silvester's method. As there was no improvement tracheotomy was performed without delay, and inflation through the tube attempted. In the meantime two syringefuls of ether were administered hypodermically and an enema of brandy and beef-tea was given. As a last resource acupuncture of the heart was resorted to. Artificial respiration was continued throughout from the first bad sign and until the patient had been dead three-quarters of an hour, but all efforts failed to restore animation.

Necropsy.—This was made on Dec. 21st by Dr. Higgs and Mr. Messiter. On opening the body the lungs, liver, spleen and kidneys were found engorged with blood and the venæ cavæ and right heart distended; the left ventricle was firmly contracted and empty; there was no fluid in the pleuræ or pericardium; no valvular lesion of the heart; the wall of the right ventricle appeared rather thinner than normal; the brain was congested; there was no visible organic disease in any of the internal organs. The cause of death in this case was chloroform asphyxia. Exactly one ounce of the anæsthetic had been used.

Dudley.

GLYCERINE IN CONSTIPATION.

BY JAMES D. STAPLE, M.R.C.S. ENG., L.S.A. LOND.,
LATE HOUSE SURGEON AND VISITING SURGEON TO THE STOCKPORT INFIRMARY &C.

DURING my residence at the Stockport Infirmary I gave glycerine enemata in over a hundred cases, and on referring to my notes I find that the quantity injected was one drachm for children and two drachms for adults, the syringe used being the special one sold by instrument makers for the injection of glycerine. The bowels acted generally within fifteen minutes, in some rare cases half an hour elapsed, and on two occasions the injections had to be repeated. Since then I have discontinued the enemata and now I administer the drug by means of a suppository or "glycone," which can be obtained from any chemist at a small cost. The suppositories vary in strength, I believe, but some contain about 95 per cent. of glycerine; and the results are the same as when the glycerine is given by enemata. These little suppositories can be most easily and quite painlessly introduced and the patients can themselves insert them. If one suppository fails to act in from five to twenty minutes, which is a rare occurrence, the introduction of a second will soon have the desired effect. Some of the advantages of glycerine administered by this method are absence of pain, ease of administration, rapidity of action and absence of griping. Glycerine suppositories are particularly useful in cases where an aperient by the mouth is not advisable. In midwifery practice, too, they are very useful for rapidly emptying the bowels. In the chronic obstruction of old people, caused by hardened fæces in the lower bowel, glycerine suppositories are especially useful.

City-road, Bristol.

HEREDITARY LUXABILITY OF ELBOW-JOINT.

BY P. A. KELLY, L.R.C.S. IREL.

THE surgeon is sometimes reminded that heredity may and does play an important part in surgery as in medicine. A case illustrative of this fact came under my notice last month. One evening in the early part of December a gentleman was exercising on a horizontal bar, from which he fell upon the palmar surface of the right hand. The right ulna was dislocated backwards and outwards at the elbow-joint. Under chloroform, with a little manipulation, this was reduced. A few days after, in conversation, he said: "I have always expected to have my elbow dislocated." I was surprised at this remark, and on questioning him learned the following curious history: When his father, now an old man, was a lad, he dislocated the right elbow-joint. The year following he sustained a like injury to the left. These dislocations were not reduced and after some time he complained of numbness in both hands. This feeling was accentuated in the little finger and on half the ring fingers of both hands. The muscles began to waste. Clearly the ulnar and musculospiral nerves were implicated. The forearms became mere skeletons. He sought advice in London, but the injury was of too long standing for any good to be expected by treatment. He is still living and has some limited movement, but the injured parts are very susceptible to cold. So much for the father. Twenty years ago one of his sons dislocated the left elbow. At the time the injury was diagnosed and treated as a fracture, but after a few months the bone was forcibly pulled into place. A certain amount of deformity remained. Eight years ago another son also suffered a luxation of the same joint. This case, like the former one, was treated as a fracture. At one of the hospitals in Vienna this dislocation was reduced, with a fairly good result. The third son (my patient) has now regained the entire use of the joint.

Barry, Cardiff.

A FATAL CASE OF VOMITING OF PREGNANCY.

BY JAMES OLIVER, M.D., F.R.S. EDIN., F.L.S.

A PATIENT was sent to me at the Hospital for Women, Soho-square, on Jan. 18th, 1893, by Mr. Melville of Caledonian-road. She was twenty-nine years of age and, although married seven years, had never before been pregnant. Menstruation, established at the age of fourteen, had recurred regularly every three weeks until Sept. 25th, 1892, since which date—i.e., for nearly four months—there had been complete amenorrhœa. From the end of October until the week before Christmas she complained constantly of a feeling of sickness, but only occasionally during this period was there actual vomiting. Since the week before Christmas she had vomited almost incessantly. If even the smallest quantity of fluid was taken it was ejected immediately. For one week she had complained of tenderness of the abdomen. Physical signs: The anterior abdominal wall was flat and so retracted that the anterior superior spines of the iliac bones stood out prominently. The abdomen was so extremely tender that the results of palpation and percussion could not be ascertained. Vaginal examination: The vagina was exceedingly tender, and there was noted a marked bulging of the anterior wall of this canal. The cervix was situated far back towards the sacrum and was closely applied to the left wall of the pelvis. It was surrounded by what appeared to be an œdematous collar of mucous membrane at the vaginal roof. The cervix was not soft. The os looked downwards. On the right side the vaginal roof was pushed down below the level of the external os by a large globular and cystic swelling. Bimanual examination: The abdomen was occupied by an ovoid swelling which reached to about two inches above the pubes and the greater diameter of which extended transversely. Palpation of this abdominal swelling could be equally perceived in both the swelling in the right fornix and the cervix. Both breasts were enlarged and tender, but no colostrum could be obtained. The pulse numbered 120 per minute and the temperature was normal. The temperature continued normal until the day before death, when it fell to 96° F., but the pulse gradually increased in frequency. Death occurred on Jan. 30th, but for three or four days previously the patient had occasionally prolonged attacks of syncope.

Necropsy.—Here and there the skin of the face, chest and legs was of a deep lemon colour. On opening the abdominal cavity the peritoneal sac was dry and there was no evidence of peritonitis. The uterus occupied more especially the right half of the pelvis and the fundus reached to about three inches above the pubes. Two small fibroid nodules each of about the size of a pea were observed in the anterior wall of the uterus close to the fundus. There was no evidence of tension in the broad ligaments and both ovaries and both tubes were apparently healthy. The uterus was removed intact. The bag of membranes was then observed projecting beyond the external os. The posterior wall of the uterus had evidently yielded more to the pressure of the developing ovum than the anterior, for not only did it bulge more than the latter, but it was actually much longer and much thinner. The placenta was found detached, yet no hæmorrhage had resulted from the separation. It was a four months' fœtus. The liver was of a pale-yellow colour; it was soft and fatty but not enlarged. The gall-bladder, which was distended, contained bile of a deep olive-green colour. The spleen was rather small. All the other organs of the body were apparently healthy.

Gordon-square, W.C.

A NEW METHOD OF MANIPULATION FOR THE REPLACEMENT OF THE LOWER JAW WHEN DISLOCATED.

BY FELIX ROTH, M.R.C.S., L.R.C.P.

THE patient is seated in an ordinary cane-bottomed chair; the operator stands before him with one foot placed slightly to the right side and the other just in front of the patient and in the middle line. The operator is thus on a firm basis, with the legs well apart and fully extended. He then flexes himself at the hips and asks the patient to lean forwards and to place his forehead in the middle of the sternum of the operator's chest (but this position varies with the size of the patient's head). The operator now flexes his head so that his chin grips the patient's head about the upper part of the occipital bone; he thus acquires a firm hold and has the head well under control between his chin and chest. The thumbs, protected in the usual manner, are placed in the patient's mouth and the fingers of both hands grasp the lower jaw. In this position reduction is facilitated, and the advantages over the ordinary methods are as follows: (1) The operator has the head under perfect control and perfectly fixed; (2) the line of force exerted by the operator's hands acts in the same line as the resisting force exerted by the operator's chin; (3) the operator's elbows being well flexed, he can exert a greater power by the force acting through the thumbs being close to the shoulders, and it will be found that he has greater power of muscular action in the terminal phalanges of the same; (4) the patient's head is also in a better position for replacing a dislocated jaw; (5) the operator needs no assistant and does not inconvenience his patient by the excessive pushing and pulling about of the head during the reduction.

George-street, Portman-square, W.

ULCERATIVE TUBERCULOUS AFFECTION OF THE LOBE OF THE LEFT EAR,

WITH ANÆSTHESIA OF THE SAME SIDE OF THE FACE, COMPLICATED WITH SCABIES.

BY W. GILMORE ELLIS, M.D. BRUX., M.R.C.S., L.S.A.,
MEDICAL SUPERINTENDENT, GOVERNMENT LUNATIC ASYLUM, SINGAPORE.

A PORTUGUESE Eurasian lad aged twelve, fairly well developed, mulatto coloured, hitherto healthy, was brought to me on Dec. 16th, 1892, suffering from ulceration of the lobe of the left ear, the affected part itching considerably. The lobe was swollen, livid and nodulated, ulcerated in places, and discharged a sanious fluid of a peculiarly disagreeable odour. The patient stated that fifteen days previously he had been bitten upon this ear by a mosquito, that the puncture had caused excessive irritation, and the above described condition had rapidly ensued. He also complained of almost complete anæsthesia of the left half of the face above the level of the angle of the mouth, and added that he had noticed this loss of sensation for about a year. The boy was stripped and thoroughly examined, but nothing further abnormal could be discovered. As I had a suspicion of leprosy, two of the nodules on the ear were compressed until they were anæmic and then pricked with a needle, and cover-glass preparations were made of the clear serum that exuded. These were double-stained by Ehrlich's method, as recommended by him for staining the bacilli of tubercle. The preparation first examined showed under a quarter-inch object glass two female acari scabiei, and under a one-twelfth homogeneous oil immersion lens numerous bacilli lepræ, some of which were apparently within one of the acari, although it is possible that they were above or beneath it. Many bacilli lepræ were also to be seen about the legs and body of the acari and in other parts of the field. Large numbers of similar bacilli were present in the other preparations and in preparations of the sanious discharge from the ulcerated portion of the ear, some lying free, some in cells about the nuclei, and some in small masses resembling little balls. No bacilli were to be found in blood from the diseased ear nor in serum from the anæsthetic patch, and although careful search was made no more acari could be discovered. The bacilli seen were very like the bacillus tuberculosis, but somewhat smaller, straighter and less rounded at the ends. The family history of the boy was bad: his mother suffered from advanced pulmonary tuberculosis, and her father, uncle and grandfather died of lung mischief; her brother also, but a few months ago, had severe hæmoptysis. The father of the lad denied having had syphilis. None of the members of the family have ever been known to be leprous. The boy himself, however, had been in the habit of playing about an old leper's house, although he denies ever having entered the house or having had any contact whatever with the man. I saw the patient again on Jan. 13th, 1893. The anæsthesia was more marked and the lobe of the ear was thicker, but the ulceration was tending to heal. Some slight thickening of the second toe of the right foot—which had lost its nail—was noticed. There has been no itching since the removal of the acari. Mercurial ointment to the ear has as yet been the only treatment. Crowds of bacilli were again found in the discharge from the ulcer and in serum from the nodules.

Singapore, Straits Settlements.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

TWO CASES OF LAPAROTOMY, ONE FOR RUPTURE OF THE FEMALE BLADDER AND THE OTHER FOR ACUTE LOCALISED INFLAMMATION OF THE ASCENDING COLON.

(Under the care of Mr. HOWARD MARSH.)

IN commenting on this case Mr. Marsh remarks that, as rupture of the urinary bladder has as yet been treated in comparatively few instances by laparotomy and suture, it seems desirable that for the present every example should be recorded. Each must afford useful information in regard either to the course which these cases take or the different steps of the operation itself. In the present case the operation was performed eighty hours after the rupture had occurred. This is probably the longest period that has elapsed in any instance between the accident and the operation. It is needless to say that such an interval must in itself render success almost hopeless. In the majority of cases the period has been under thirty hours. In Mr. Heath's case, however, it was forty-two hours and a half and in Mr. McGill's sixty-six hours. Both patients died. In the present instance the abdominal cavity had become distended with urine mixed with blood-stained serum. This composite fluid had, however, apparently undergone but little putrefactive change; it was not ammoniacal and had no odour of decomposition. The intestinal coats were somewhat thickened and injected; but no lymph or pus was present, so that peritonitis, though it had been already developed, had not been intense, nor had it reached an advanced stage. It was, in fact, a matter of surprise to notice how comparatively little the peritoneum had suffered from its long immersion in urine, and also how slight a degree of decomposition the urine had undergone. It seemed doubtful at the time whether it might not be wise to introduce a glass drainage-tube into Douglas's pouch. It was determined not to do so, as the peritoneum had been thoroughly irrigated and sponged dry.

CASE 1. *Rupture of the female urinary bladder; laparotomy eighty hours after the injury; fatal peritonitis.*—A woman aged thirty-four while intoxicated was kicked in the abdomen and otherwise very roughly used on the evening of Aug. 2nd, 1892. It was difficult to obtain the facts, but no immediate symptoms seem to have been developed. On the 5th the patient applied to a surgeon and said that she had passed only a teacupful of urine since the injury. A catheter was passed and only two ounces of blood-stained urine were withdrawn. On her admission immediately afterwards she looked ill and distressed and presented several bruises about the abdomen and other parts

of the body, but her general condition was fairly good. The abdomen was distended, prominent and dull on percussion, except in the umbilical region. A catheter introduced into the bladder passed considerably beyond the normal distance and evacuated a large quantity of urine mixed with blood, evidently from the peritoneal cavity. At 11 P.M., eighty hours after the kick, laparotomy was performed. When the peritoneum was opened five or six pints of dark-coloured urine mixed with blood streamed out. When the abdominal cavity had been thoroughly irrigated a rent in the bladder with ragged edges was found. This, situated just behind and below the fundus and two inches and a half long, was intra-peritoneal in almost its entire extent. It was closed with fine silk sutures introduced by Lembert's method, some twenty being used. When injection of the bladder showed that it was water-tight the peritoneal cavity was again copiously flushed with water sterilised by boiling and used at a temperature of 95°, and the abdominal wound was closed. The patient bore the operation well, and the next morning her condition appeared in every way satisfactory; there was no pain or vomiting or distension, and she took food readily. A catheter passed every three hours drew off between four and five ounces of urine, only slightly blood-stained, on each occasion. At 5 P.M., however, vomiting set in, and she quickly lost strength and died at 8 P.M. Post-mortem examination showed general, but not intense, peritonitis. The retro-peritoneal tissue was sodden with urine. The rent in the bladder was securely closed and quite watertight.

CASE 2. *Acute localised inflammation of the ascending colon apparently following injury; laparotomy; recovery.*—A boy fourteen years old was admitted into St. Bartholomew's Hospital on Oct. 16th. On the morning of that day he "strained himself" in trying to lift a heavy weight. Before this occurrence he had been, he believed, perfectly well. Half an hour afterwards vomiting began and was followed by such severe pain in the right iliac fossa that he was brought to the hospital. On his arrival he complained of severe pain and tenderness on pressure on the right side of the abdomen at the level of the iliac crest, and in the course of the ascending colon. In this situation a slight fulness deeply placed could be felt. There was slight tympanites. Next day he was in much the same condition. Pain was so severe that small doses of opium were given every four hours. His temperature was 102·4°. The swelling felt on the previous day was now much more distinct, and was firm and resistant and very tender. He was still sick; the tympanites was more marked; his bowels had not acted, but he had passed flatus. On the 18th the swelling, which was sausage-shaped, was still more distinct, and pain and tenderness were more marked. The boy looked very ill and his countenance wore an expression of anxiety and distress; he lay still, with his knees raised, and was afraid to change his position or even to allow the nurse to lift him. Although the swelling did not occupy the iliac fossa, but was on a level with the iliac crest, it was thought the case was probably one of appendicitis, and that the high situation of the swelling was due to the fact that the cæcum had not descended so far as to occupy its usual position. It seemed, however, clear that an exploratory operation would have to be performed. On cutting down over the swelling and opening the peritoneal cavity no pus or other inflammatory products were found. When the swelling was exposed it proved to be about three inches in length from above downwards, and an inch and three-quarters transversely; it was dark-red or livid in colour and felt succulent and firm, evidently from acute inflammatory hyperæmia and exudation. At first it was not easy to say what this swelling was; but, traced upwards and then in a downward direction, it was found to consist of a portion of the ascending colon, acutely inflamed. To ascertain whether the mischief had originated in connexion with the appendix Mr. Marsh passed his finger down, behind and all round the cæcum. He found nothing wrong. The bowel could be easily lifted from its bed, there was no matting and the appendix was perfectly normal. It now seemed clear that the condition consisted of inflammation of a limited portion of the anterior and outer wall of the colon just above the cæcum and involving the serous and muscular coats. Besides this nothing in any way abnormal could be made out. The wound was well irrigated with perchloride solution (1 in 4000) and closed. After the operation the pulse and temperature came down and the pain was relieved. During the night the patient vomited three times, but next day he was much better. A week later, having been in the interval fed entirely by nutritive enemata, he was allowed small quantities of fluid food by the mouth and a small custard pudding. In a few hours his temperature went up to 100·5° and he had a return of pain. He was therefore again fed entirely with enemata. On the 29th his temperature was 102·2°, and on the 30th he had slight tympanites, and vomited three times in the course of the day, the material on one occasion being distinctly fæcal. On the 31st his condition improved and he was convalescent in a few days. The swelling slowly disappeared.

Remarks by Mr. MARSH.—I record this case because I am unable to explain it. The symptoms and external appearances suggested appendicitis, but the appendix and the surrounding structures proved to be healthy. The condition found consisted of acute inflammation of the serous and muscular coats of the anterior and outer wall of the colon just above the cæcum. The history went to show that the symptoms followed directly upon a strain, and the inference would seem to be that the intestine had been mechanically injured; but how such an injury could be produced it is difficult to see, for there was no history of a blow. It is perhaps conceivable that sudden compression by contraction of the abdominal muscles might injure the serous and muscular coats of the intestine—especially if it contained hardened fæces—and that acute inflammation might result, but I do not know that such cases have ever been recorded. It is possible that there was no relation of cause and effect between the strain and the condition of the intestine, and that their coexistence was merely accidental. Cases are not rare in which it seems evident that mischief of a very grave character may give rise to symptoms only when it has made considerable advance. Thus a man between forty and fifty, who thought himself perfectly well, while walking in the street suddenly felt something "give way" in his abdomen, and was attacked with vomiting, severe pain and a sensation of faintness. General peritonitis rapidly developed and proved fatal in a few hours. On post-mortem examination it was found that an abscess connected with the appendix had burst into the abdominal cavity. But, if the view is taken that the strain and the state of the colon were merely accidentally associated, on what did the condition of the colon depend? It is possible that the intestine had been injured by a foreign body, such as a fishbone; but it seems unlikely that a foreign body which had traversed the whole length of the small intestine and passed through the ileo-cæcal valve would have become impacted in the large intestine; nor was anything seen of a foreign body, either during the operation or at a later period of the case.

LEEDS GENERAL INFIRMARY.

A CASE OF PORRO'S OPERATION AT THE FULL TERM OF PREGNANCY FOR MYOMA; RECOVERY OF MOTHER AND CHILD.

(Under the care of Mr. A. W. MAYO ROBSON.)

As it was clear that delivery by the vagina was entirely out of the question in this case, the choice of procedure lay between Porro's operation and Cæsarean section, and as drainage of the uterine cavity after delivery would have been difficult or impossible it seemed to Mr. Robson that amputation of the uterus was the only justifiable course. Although the principle adopted was that of a Porro's operation, in that amputation of the uterus and appendages was performed, it scarcely comes under the true definition of a Porro, as amputation was effected not at the cervical junction but at a much higher point, on account of the tumour which involved the lower part of the uterus and which could not be dislodged from the pelvis. No special difficulties were encountered and there is nothing special to record in the technique, except with regard to the dressing of the uterine stump, and for that the simplest of all dressings—powdered boracic acid—was employed. This Mr. Robson has used recently for all his hysterectomies, with the happiest results, as the desiccation secures an aseptic condition in the most simple and effective manner. In his last case of abdominal hysterectomy he found the new antiseptic dermatol answer equally well. For the notes of the case we are indebted to the house surgeon, Mr. A. Whitehead.

A patient of Mr. Spong, aged forty, was admitted to the Leeds Infirmary on Nov. 18th, 1892, under the care of Mr. Mayo Robson. She stated that she had always enjoyed excellent health, and that menstruation had always been

normal and regular except during her pregnancies and her lactation periods. She had been pregnant six times. The first child was born dead at term, the second is living and healthy and the third time she aborted at the fifth month. In January, 1891, she was delivered of her fourth child at full term, when a tumour was discovered connected with the uterus and partially blocking the pelvis, so that delivery was effected with difficulty and the child was born dead. In March Mr. Robson saw her with Mr. Spong and advised removal of the appendages. Menstruation commenced again at Whitsuntide, and at the same date she became an in-patient at the infirmary, but feeling so well that she declined operation. She again became pregnant, but miscarried at Christmas of 1891 at the third month. Soon after this she again became pregnant, and, except for some slight feeling of extra weight in the pelvis during the last two months, there had been absolutely no symptoms whatever of anything pathological, and she did not acquaint Mr. Spong with her condition until she had nearly reached the full term. Mr. Robson was again consulted, and finding the pelvis completely filled by a fibro-myoma he advised her removal to the infirmary for Porro's operation. On admission she was obviously pregnant and near the full term, she herself expecting the confinement in a few days. The head of the child could be felt more distinctly than usual, directed downwards, the back towards the mother's left. The placental site was evidently not at the front. On vaginal examination a large hard mass could be felt in the posterior segment of the uterus and blocking the pelvis almost completely, the os being felt as a slit high up behind the pubes. On Nov. 19th, at 9.30 A.M., the abdomen having been asepticised and the patient anæsthetised with the A.C.E. mixture, Mr. Robson made a median incision of about five inches through the abdominal wall from a point one inch above the umbilicus to within an inch of the pubes. An elastic ligature was passed over the top of the uterus so as to act as a tourniquet if hæmorrhage should prove troublesome (but this was not drawn tight until the child had been extracted). A vertical incision was then made in the anterior wall, exposing the membranes, hæmorrhage being slight and well controlled by pressure. The edges of this uterine opening having been well drawn forward to prevent escape of fluid into the peritoneal cavity, the membranes were opened and the liquor amnii drained off; the breech presented and the child was extracted. It commenced to cry at once, and the cord was severed. The tourniquet was then tightened and the uterus with the placenta *in situ* was drawn forward through the wound, the broad ligaments were ligatured and the appendages removed. As the tumour was firmly impacted in the pelvis, from which it could not be extracted, the wire of a Koeberlé's serre-nœud was passed round the uterus as low as possible, a small portion of the tumour, which was clearly a fibro-myoma, being included in the stump. A long pin was then passed through the stump and the uterus cut away. The peritoneum was closed by a continuous catgut suture and closely applied round the stump. The muscles and aponeurosis were drawn together by a continuous suture and the skin by several interrupted silkworm sutures. The dressing adopted throughout consisted of dry boracic acid powder, dry double cyanide gauze and salufer wool. At 6.50 P.M. the same day there was a sudden very copious hæmorrhage from the stump and from the vagina, a considerable quantity of blood being lost before it was stopped by tightening the clamp and packing the vagina.

Nov. 20th.—The patient is weak, but she is gaining strength.

21st.—The packing was removed from the vagina; there was some oozing; the packing was reapplied.

27th.—The clamp came away to-day, the wire having evidently broken some days previously.

28th.—The stitches were removed; the upper part of the wound had healed.

The rest of the patient's stay in the hospital was unmarked by a single bad symptom, the wound running a dry aseptic course and the temperature being normal throughout. She commenced to suckle her child within a few days of the operation, and was discharged on Dec. 22nd in good health and able to walk a considerable distance; the wound was healed and appeared quite sound. She was seen again on Jan. 14th and was performing light household work without any discomfort. The child was thriving and in perfect health, having been chiefly nourished by the mother's milk from an early period.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Some Clinical Features of Chronic Albuminuria chiefly with reference to Prognosis.

AN ordinary meeting of this Society was held on Feb. 20th, the President, Mr. Hutchinson, in the chair.

Dr. RALFE observed that the clinical significance of albuminuria as a symptom had undoubtedly diminished during the last twenty years. Since, however, the practice was established of systematically examining the urine for albumen in all cases that came under observation, as well as in a presumably healthy class that presented themselves for "life assurance" and the public services, a numerous and well-defined group of cases had been determined which for convenience might be designated as "functional," and which perhaps constituted from one-third to one-half, according to the character of the practice, all the cases of albuminuria that came under notice; besides which, with regard to the albuminuria associated with actual disease of the kidneys, the earlier recognition of the symptoms owing to the systematic examination of the urine, which informed us of the mischief in the primary stage of its inception, before the structure of the kidney was irreparably damaged, and permitted by improved hygienic and dietetic measures checking its advance, and possibly in acute forms its recurrence, had made the prognosis of all albuminuria not only more hopeful taken as a symptom generally; but even in the graver cases, when associated with renal disease, had rendered them less immediately fatal than had till recently been supposed. But in these cases (organic renal disease) there were so many clinical varieties depending on etiological conditions—such as the constitution of the patient, heredity, specific conditions such as gout, syphilis, struma, malaria &c., either acquired or inherited, specific poisons such as scarlet fever, diphtheria, lead poisoning and the like, which had to be taken into consideration in coming to a conclusion as to the course any given case might run—that nearly every patient presenting himself showed some variation worthy of notice as affecting either the predisposing or exciting causes that accelerated or retarded the progress of the disease. The most familiar varieties of chronic albuminuria which came under notice were those which eventuated in the contracted granular kidney associated with cardio-vascular changes more or less marked. In the red variety, owing to the insidious nature of its onset, it was often not till late that the true character of the disease was recognised; and this was usually detected by the sudden development of some symptom other than albuminuria, of grave prognostic import, such as albuminuric retinitis, dyspnœa, hæmorrhages from mucous surfaces, and paralyses, after the establishment of which the hopes of prolonging life were seriously curtailed. When, however, by good fortune one met with a case in quite an early stage, one might hope by proper dietetic and hygienic measures to retard its progress and render the prognosis brighter. Dr. Ralfe quoted the case of a gentleman who on examination, in 1878, was found to have his urine normal, his pulse soft and heart not enlarged, who was found in 1882 to have developed albuminuria, with enlargement of the left ventricle and tense pulse, and who during the last eleven years had not apparently become worse, owing in great measure to his care in dieting and general hygienic precautions. With regard to the nephritis of gouty patients, Dr. Ralfe was of opinion that the intensity and continuance of the inflammation were influenced by the severity of the gouty manifestations, and when these could be controlled the renal affection often ran a very chronic course. He mentioned a patient with gouty nephritis, who had consulted the late Dr. Murchison in 1874 for albuminuria with distinct nephritis, who was still living, a duration of nineteen years. Speaking of such symptoms as uræmia and dropsy, Dr. Ralfe remarked that these symptoms in gouty nephritis had not the same grave import as in other varieties of chronic albuminuria and were often relieved by an outbreak of acute gout. In the nephritis occurring in patients who had suffered from syphilis, malaria and plumbism the prognosis was far from being favourable. In these cases vascular degeneration usually occurred at an early period, and after the development of symptoms depending on this the patients rarely survived more

than eighteen months to two years. Other forms of chronic albuminuria were passed in review, chiefly a form of chronic hæmorrhagic nephritis, and also a paroxysmal form, which Dr. Ralfe suggested might be a true gouty inflammation of the kidney. He also drew attention to a form of chronic nephritis occurring in middle-aged and obese persons, which was probably caused by venous plethora. In some of these cases a mild form of diabetes often existed at the same time. The albuminuria so often found in morphia *habitués* was probably caused in this way, the drug causing partial paresis of the renal veins and their branches. He likewise insisted on the importance of not disregarding intermittent appearances of albumen in middle-aged persons, as they were often a prelude to more serious symptoms. In conclusion, Dr. Ralfe detailed some observations and experiments he had made regarding the effect of milk diet on the various forms of albuminuria, with the result that an absolute or nearly absolute milk diet was most beneficial in acute or subacute nephritis, especially for the relief of dropsy. It was badly borne in the more advanced cases, especially if there were vascular degeneration or uræmic symptoms; in one instance uræmic convulsions followed every attempt to enforce the diet.

Dr. STEPHEN MACKENZIE referred to the great difference in the prognostic significance of albuminuria between the present day and Bright's time. Then anyone whose urine was albuminous was consigned to a speedy grave, whereas now it was known that many such patients might live for years and discharge active professional and business duties. It was the subjects of the gouty variety of granular kidney who lived long, especially if they adopted a carefully regulated diet. The fact that patients with chronic granular kidney were subject to hæmaturia was not well known; attacks of a hæmorrhagic character might occur intermittently over a considerable period. In passive congestion of the kidney with congestion of the chylo-poietic viscera there might be albuminuria without arterial tension and without cardiac hypertrophy. Patients with lardaceous disease did not commonly suffer from cardio-vascular change, and albuminuric retinitis in them was almost unknown. It was necessary in treatment to combat the anæmic tendency so commonly manifested. In cases without anæmia the prognosis was better.

Dr. DE HAVILLAND HALL related a case in which hæmaturia occurred in the course of granular kidney. There had been several attacks, and it was noticed that they relieved the other symptoms. As to albuminuria in regard to life assurance, the tendency had been to under-rate its importance during the last three years. If it was found in a person over forty, the diagnosis was much more serious than if it occurred at an earlier age. He endorsed entirely the remarks which had been made on the subject of diet. In conclusion, he mentioned the case of a man aged sixty-four, the subject of albuminuria, whom he had attended for eleven years, and when he last saw him he was in good health.

Dr. HAIG remarked on a case of uræmia in which the symptoms disappeared on the supervention of an attack of gout. This bore out his contention that uræmia was really uric acidæmia, and the uric acid could not be in two places at once. If it were retained in the blood, it gave rise to toxic symptoms; if it were thrown out into the joints, it produced inflammation. He thought that the habit of morphinism conduced to the manufacture of Bright's disease, for morphine produced such extraordinary effects on the vessels. In the congestive albuminuria of cardiac disease there was no excess of diffusible albumen in the blood, but in Bright's disease such an excess could be demonstrated.

Dr. SYMES THOMPSON said that the question of albuminuria from a life insurance point of view was a very difficult one, for, though in some cases it was impossible to regard lightly a slight degree of transient albuminuria, yet in others very serious albuminuria in connexion with kidney disease might exist for years without materially shortening life.

Dr. ROUTH emphasised the importance of care in the recognition of albuminuria in women, and he referred to instances in which on withdrawal by catheter of the urine from the bladder it was found normal, whereas when it was passed in the usual way it contained albumen, the latter coming from the genital passage. In the case of large abdominal tumours, though the patients might pass a considerable quantity of albumen, uræmia did not as a rule supervene and there were no casts. He thought that in the gouty cases the gravel passed might itself be the cause of the albuminuria.

Dr. LAUDER BRUNTON dealt with the question of albuminuria in life assurance. There was considerable difference of opinion as to the prognosis and as to the duration of life in cases of intermittent albuminuria. Statistics from America had shown that about one in eleven of healthy men passed albumen occasionally in the urine; in his own experience the proportion was about 2 per cent. In America its occurrence was at first regarded lightly, but in following these cases up it was found that many developed untoward symptoms. If the patient were over middle age and the urine of low specific gravity, though it contained only a trace of albumen, the prognosis was serious, and he quoted a case which illustrated this. Such patients required a non-nitrogenous diet and plenty of warmth to the surface. The albuminuria of chronic malaria was interesting, and was due to the venous congestion which occurred during the ague fit and during the slight shiverings afterwards. He gave details of a case he saw nine years ago of a man whose father had broken down suddenly when aged fifty-six. The patient hunted five days a week and had never had a day's illness. On examination there was found a large quantity of albumen in the urine. He advised that for assurance the life was safe up to fifty.

Dr. FRANCIS HAWKINS gave further details of this case. The patient was at present aged forty-nine, and the albuminuria was discovered twenty-five years ago. He gave the results of examinations of the urine from 1872 to the present time. The patient was a thin, wiry man, who still hunted a great deal. The urine contained one-third of albumen, and microscopically uric-acid crystals were found. He was in good health, there being some firmness of the brachials and slight cardiac change. Dr. Hawkins related three other cases in which albuminuria had persisted for long periods, the patients remaining in good health.

Dr. NORMAN KERR said that in cases of morphinism he had only found albumen in the urine in 4 per cent.

Dr. RALFE, in reply, agreed that when anæmia was pronounced the case assumed a very grave aspect, and no form of iron seemed to combat it successfully. As to the hæmaturia in gouty cases, he thought that the gouty poison might act like malaria and cause abdominal plethora. The cases to which he referred of albuminuria associated with morphinism were all diabetics. In conclusion, he referred to two cases in which early transient albuminuria had been followed by serious symptoms.

PATHOLOGICAL SOCIETY OF LONDON.

Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma.

AN ordinary meeting of this Society was held on Feb. 21st, the President, Sir George Humphry, in the chair.

Mr. J. JACKSON CLARKE read a paper entitled a Critical Survey of Recent Work bearing on the Pathology of Cancer and Sarcoma, and he showed many drawings and microscopical specimens. The latter included sections of an early scirrhus containing plasmodia, which, on the warm stage, showed amœboid movement; the specimen exhibited an unmistakable infection by sporozoa. The other sections showed the intracellular and the sporing stages of the psorosperms of a sarcoma of the femur. Having reviewed in chronological order the papers which had been written on this subject and discussed the conclusions arrived at by the writers, he proceeded to give some account of his own work. He first showed on the screen photographs of two sections of the psorospermial cysts of the ureter described by him. In one multitudes of psorosperms of the most varied appearances and dimensions, some of them still within epithelial cells, filled the cavity. This section showed that it was of no use trying to identify psorosperms in cancer by any given group of characters. A diagnosis was only to be made by taking a broad view and comparing one half of a section with another. Granted that the bodies in that cyst cavity were sporozoa, then the formation of the cyst was explained, just as the presence of a large increase in the cavity of the pregnant uterus was explained by the power of growth of the fœtus it contained. The second section was filled by amœboid spores, the origin of which Mr. Clarke had been able to trace in a subdivision of the large "ripe psorosperms." Some of the amœboid psorosperms had wandered into the connective tissue outside the cyst. The epithelial lining at parts was heaped up from proliferation. Leuchart had stated that the rabbit's coccidia did not multiply within the body of the host. This had been shown

to be an error. The sporozoa formed two kinds of spores; the swarm spores which were formed and set free within the host, and the lasting spores which were formed in certain conditions. Mr. Clarke showed drawings of the formation of swarm spores in the rabbit's coccidia from the liver, they differed distinctly in form from the lasting spores. The amœboid psorosperms in the cyst of the ureter were swarm-spores, and were identical in character with those of cancer. The sporozoa of short-lived animals such as rabbits would require for the preservation of their race the frequent formation of lasting-spores. In cancer there was evidence that the swarm-spore formation occurred through countless cycles without the lasting-spores ever being formed. The lasting-spores of the microsporidia were, however, small and might easily have been overlooked in cancer. The third photograph showed large cells lying near a cell-nest of a squamous epithelioma. They were identical in character with the large psorosperms of the cyst of the ureter, save for slight modifications in shape caused by pressure. The fourth photograph showed a cell-nest in which the ripe psorosperms had divided up into swarm-spores. Observers who had noticed the subdivision of these apparently degenerated cells without recognising that they were sporozoa had to fall back on Hausemann's naïve suggestion that the cells took to breeding for want of food. The life history of an epithelial cell was sufficient to negative this hypothesis. As regarded the endogenous formation of cells, Mr. Clarke had never observed it in man; it only occurred in the spore formation of the sporozoa of cancer, sarcoma &c., and was simulated by the entrance of parasites and leucocytes &c. into other cells. The fifth photograph showed spore formation in an intervascular area of a sarcoma. In this section the psorosperms were dividing by karyokinesis into numerous clusters of cells, which other parts of the section showed to be again subdivided into amœboid spores. No one who knew anything of the sporozoa could examine the section of commencing scirrhus placed under the microscope without at once recognising that the condition was due to them. He was more than ever convinced that both cancer and sarcoma were caused by these parasites in the same sense that tubercle is caused by the tubercle bacillus. Those who only recognised their intra-cellular stage and did not believe that they were sporozoa, could not realise how completely the presence of the parasite explained these diseases. He would again emphasise the importance of the invasion of the connective tissues beyond the epithelial parts of cancers by the amœboid psorosperms. This observation has emboldened him to regard the parasites as the cause of the disease. In sarcoma the process was practically the same as in cancer, save for the fact that vascular connective and not epithelial tissue was infected.

Dr. GALLOWAY then proceeded to show on the screen the only bodies which appeared to him to have any proof of parasitic nature. Proof was still wanting of their power of reproduction outside the body, and as to their being the cause of cancer that was a further question as yet untouched. He then showed two series of micro-photographs, the first representing the ordinary form of the parasite as observed in carcinomata. The intracellular character of the parasite was emphasised, its structure was demonstrated to consist of a capsule and a nuclear body, and the radiations were referred to as evidences of the protoplasmic character of the contents. The common position of the parasite at the extreme periphery of the invading carcinomatous growth was mentioned as being of suggestive import. Other forms of the parasite were referred to—namely, the intra-nuclear form, the existence of the parasite in clumps and certain appearances which suggested to the speaker that reproduction might occur. The second series, for which he was indebted to Mr. Andrew Pringle, was shown as representing various forms of cell inclusions, such as the invagination of one cell within another. In this connexion the importance of correct methods of preparation was strongly emphasised. He then went on to mention the most serious criticism which had been brought forward as an explanation of the inclusion in question not being parasitic in character. The work of certain German observers was drawn attention to in which the inclusion was suggested to be brought about as a result of irregular mitosis. These writers suggested that small pieces of the fragmented nucleus were capable of gathering around them envelopes of protoplasm and thus giving rise to cells within cells. The difficulties of this view lay mainly in the fact that the hypothesis demanded a continuance of the life of a portion of chromatin which was admittedly degenerated at the commencement of the process. The bodies he had shown in the first series were, he held, of different character from all cell or nuclear degenerations and they appeared to be of an origin external to the cell. He could not state dogmatically that they must be protozoa, but the parasitic explanation of their character seemed much more likely than any other which he could suggest. Beyond the first two of Mr. Clarke's photographs, which were of psorosperms in the ureter, he had seen nothing in either slides or photographs which were at all suggestive of parasites, and he had been able to recognise nothing suggesting the stages of reproduction such as were seen in the sporozoa of animals which had come under his own observation.

The debate was then adjourned till the next meeting.

OBSTETRICAL SOCIETY OF LONDON.

Presidential Address.

THE annual meeting was held on the 1st inst., Dr. J. Watt Black, President, in the chair. Several specimens having been shown, the election of officers for the ensuing year took place.

The PRESIDENT then gave his retiring address. After referring to the present state of the Society, he reviewed the papers which had been read in the previous twelve months and spoke of the specimens and instruments exhibited. He devoted the rest of his address to obituary notices. In the year 1892 the Society had lost by death eleven ordinary Fellows, including Dr. J. S. Worship of Sevenoaks, Professor Bassett of Birmingham, Dr. J. W. Taylor of Scarborough, Dr. P. L. Burchell of London, Mr. F. W. Salzmann of Brighton, Mr. Geo. Lowe of Burton-on-Trent and Dr. J. H. Aveling of London. After giving a brief biographical sketch of the above-named and an account of their works, he spoke of two of the honorary Fellows of the Society, Professor Credé of Leipsic and Dr. Alexander Keiller of Edinburgh, who had died during the year. Professor Credé came of a French emigrant family which had settled in Hesse, and was born in Berlin in 1819. In 1856 he was called to Leipsic to succeed Jörg as Professor of Midwifery, and held the appointment until 1887, when failing health led to his resignation. He had done valuable work as a teacher, as an editor and as a writer. He had taken part in founding the *Monatsschrift für Geburtskunde und Frauenkrankheiten* in 1853, and he had founded the *Archiv für Gynekologie* in 1869. Credé's name would remain imperishably connected with two subjects—the management of the third stage of labour and the prevention of ophthalmia neonatorum and blindness. He described his method of expressing the placenta in his clinical lectures on midwifery published in 1853 and subsequently in the above-mentioned periodicals. That method had been misunderstood by many. In order to form an estimate of Credé's services an account was given of the management of the third stage of labour from early times down to the period when Credé wrote. It was pointed out that the earliest method of dealing with the third stage was probably that still followed in Old Calabar. Hippocrates recommended the use of sternutatories; Celsus, Philamenus, Aëtius, Moschion, Avicenna, Albucasis, Haly Abbas and Paulus Ægineta extracted the secundines by passing the hand into the uterus; Rhazes made the patient sneeze, and if the secundines did not then come away he tried to extract them with his hand, but if he failed he left them alone; Soranus disapproved of all violent methods, but advised the gentle introduction of the hand if other means failed. The immediate extraction of the secundines by the introduction of the hand into the uterus was practised by Ambrose Paré, Mauriceau and others. Some of the foregoing writers were especially urgent in their haste. One of the earliest to recommend a little patience was Guillemeau (1609); he was followed by others. It was in his *Adversariorum Anatomico-Chirurgicorum Decas Secundi* that Ruysch argued that the placenta should be left until nature expelled it—or, at all events, until it was detached and could be pulled out. It is in the same Decas that he describes the supposed orbicular muscle of the fundus uteri. Some writers were so much struck with the difficulty or the imagined impossibility of manual extraction that they advised leaving the secundines in the uterus if they failed to come away spontaneously. White of Manchester (1785) and many others after him laid great stress on leaving the expulsion of the fœtus entirely to nature, with the object of favour-

ing the spontaneous expulsion of the placenta, instead of extracting the body as soon as the head was born, as was usually done. M'Clintock and Hardy described a method closely resembling Credé's, but did not recommend it except in cases of hæmorrhage. Expression was, in fact, sometimes so vigorously practised that inversion of the uterus resulted. No one before Credé had described a method of expression so precise and effectual as his, or had insisted on the complete extrusion of the secundines from the maternal passages by manual pressure alone. As soon as Credé's method became widely known through his publications in 1860 and 1861 it was adopted by a great number of obstetricians. Already, however, not a few of those who at one time rigorously followed Credé's recommendations have returned to a more expectant treatment of the third stage, and in particular have abandoned the practice of extruding the secundines from the vagina by pressure upon the abdomen. Credé's method will always be a valuable addition to our resources in cases of hæmorrhage and in delayed expulsion of the secundines. The subject of ophthalmia neonatorum early attracted the attention of Credé. He first attempted to prevent it by treating all parturient women suffering from gonorrhœa or from chronic vaginal catarrh with repeated vaginal injections of warm water or of solutions of carbolic or salicylic acid. Under this treatment ophthalmia neonatorum became less frequent. In 1879 he made his first prophylactic experiments with eye lotions, using a 1 in 60 boracic solution. Soon afterwards he began the use of nitrate of silver, employing a 1 in 40 solution, which he subsequently reduced to 1 in 50. The further treatment of this affection was then described and its success was noteworthy. It speedily attracted the attention of leading members of the medical profession throughout the world and led to a trial of the method on a large scale. Wherever it has been practised it has been signally successful. Before the time of Credé many writers had recommended the use of vaginal injections before or during labour or prophylactic cleansing of the inner surfaces of the eyelids of newly born children, but it was he alone who opened the eyes of the medical profession to the momentous importance of the subject. Except the introduction of vaccination by Jenner, nothing greater had ever been done for the prevention of blindness in children. The chief interest of these historical inquiries lay in their illustrating the fact that as a rule useful discoveries are the product of the activity of many minds and arise by a gradual process of growth and development. Dr. Alexander Keiller, who had lately died at the age of nearly eighty-one years, had long been a well-known figure in Edinburgh medical circles and a prolific obstetrical writer and inventor of instruments. The two instruments with which his name was most often coupled were his vaginal stethoscope for the diagnosis of early pregnancy and his uterine dilators. On March 9th, 1859, Dr. Keiller made some remarks at the Edinburgh Obstetrical Society on Air Dilators in Obstetric Practice. He used a vulcanised indiarubber bag or dilatable pessary, which was introduced empty into the vagina or into the os uteri and was afterwards inflated to the required extent by means of an attached syringe or other suitable apparatus for pumping in the air. He exhibited various forms of the dilators which he had used. He said that they could be readily and successfully used in all cases in which dilatation, compression or plugging is had recourse to in obstetric practice. Some cases of induction of premature labour by means of his dilators were published in 1859.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Carcinoma of Male Breast.—Fracture of Skull.—Caries of Spine.—Hydro-nephrosis.—Floating Kidney.

A MEETING of this Section was held on Jan. 13th, Mr. Nixon, President, in the chair.

Mr. CHANCE exhibited a specimen of Carcinoma which he had removed from the left breast of a man aged thirty-nine years in the Mater Misericordiæ Hospital. The patient had no family history of malignant disease. He had received an injury in the same breast four years before. There was a large hard mass in the axilla, though the arm was neither œdematous nor painful. Dr. M'Weeney had examined the growth and reported it to be scirrhus.—Mr. M'ARDLE said that Mr. Chance's communication confirmed him in his opinion that cancer of the male breast is rarely a primary affection.—Mr. CHANCE said that the patient had been carefully examined and no other deposits could be found.

Mr. M'ARDLE exhibited portions of the Skull removed from a man who sustained an extensive comminuted and fissured fracture of the skull.

Dr. SWAN related the case of a girl aged seventeen who came into hospital with partial paraplegia, marked muscular incoördinating movements of the body and hyperæsthesia and unilateral spasm. The deep reflexes were exaggerated; an abscess had discharged behind on a level with the two lower dorsal vertebræ. From this a portion of the twelfth rib and an adjoining piece of vertebral body was evacuated. Soon afterwards complete paraplegia supervened, with loss of the deep and tonic reflexes, and gangrene of the skin over projecting points. Death ultimately occurred from exhaustion. Pott's disease followed by paraplegia is rare. The necropsy revealed not only the impossibility of drainage, but the futility of any operative procedure.—Mr. NIXON remarked that the case illustrated the fact that motor affections in paralysis appear before sensory affections, and this view was supported by Dr. Swan.

Mr. CONOLLY NORMAN read a paper on Hydro-nephrosis and Obstructive Dilatation of Kidney, and exhibited a specimen in which the right kidney presented the appearance of a large mutilocular cyst. To the naked eye no trace of kidney structure was visible. The microscopic appearances led Mr. Norman to think that the case was one of true hydro-nephrosis and not of congenital cystic kidney.

Dr. FRANKS submitted a case of true Floating Kidney. A woman aged thirty-two had influenza in December, 1891. She subsequently developed paroxysmal attacks of abdominal pain, always ending in vomiting. A freely movable kidney was discovered to the right of the umbilicus and below it on Sept. 28th, 1892. Laparotomy in the right linea semilunaris was performed on Oct. 4th. The kidney was discovered loose in the abdomen and was devoid of any fatty envelope; it was completely covered with peritoneum. The peritoneum formed a complete and perfect mesonephron. A peritoneal band bound the upper half of the concave border firmly to the duodenum; when the kidney descended into the abdomen it was found that it dragged upon the duodenum to such an extent as to kink it and almost completely to close its lumen. This was evidently the cause of the vomiting and of the dilatation of the stomach. He (Dr. Franks) fixed the kidney in the loin by means of a strong silk suture passed through the posterior surface of the organ, the ends of which transfixed the loin, and were firmly tied beneath the skin. The patient recovered completely and has since had no return of the pain or vomiting.

SECTION OF ANATOMY AND PHYSIOLOGY.

Position of Ovary.—Hour-glass Contraction of Stomach.—Absence of Ileo-cæcal Valve.—Delimitation of Abdominal Cavity.

A meeting of this Section was held on Jan. 6th, Mr. Broomfield, President, in the chair.

Professor CUNNINGHAM exhibited a section through the pelvis of a child which showed the true position of the ovary, and said that in the specimen which he exhibited the ovary was vertical, with its long axis perpendicular, the surfaces placed laterally and the borders antero-posteriorly—the position described as typical by His and Waldeyer. The Fallopian tube crossed the pelvis in relation with the lower end of the ovary.—Professor BIRMINGHAM showed an example of the hour-glass contraction of the stomach. He said it was not pathological in any sense and there was no trace of scars or cicatrices. He also exhibited a preparation showing the absence of the ileo-cæcal valve.—Professor CUNNINGHAM said that in the museum at Glasgow University there were one or more specimens of a similar kind which had been placed there by W. Hunter.—Dr. BALL mentioned a case under his own care where an enema of turpentine was given, and within a quarter of an hour the patient vomited fluid smelling of turpentine.—Professor BIRMINGHAM thought that the probability of fluid passing back into the small intestine is less when the quantity of fluid is large, as the valve is then more tense.

Professor CUNNINGHAM read a paper on the Delimitation of the Abdominal Cavity, illustrating his remarks by means of lantern slides and models. He suggested that the two horizontal planes of subdivision should correspond to lines on the surface drawn between (*a*), the most dependent points of the tenth costal arches and (*b*) the tubercles which jut out from

the outer lips of the iliac crests, about two inches behind the anterior superior spines of the iliac bones. The latter points correspond with the highest part of the iliac crest as seen from the front, and mark the spot on each side where the outline of the flank meets the ilium. He advocated the retention of the mid-Poupart planes of subdivision. He demonstrated the topographical anatomy of the abdomen of an adult male and of a female child two years of age. He was cordially thanked for his paper.

PROVINCIAL MEDICAL SOCIETIES.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

To a special meeting of this Society held on Wednesday, Feb. 15th, Joseph Bell, M.D., F.R.C.S. Edin., President, in the chair, a very large audience was attracted by the intimation of a discussion on Myxœdema, the attendance being larger than it had been for fully two years. The subject was opened by Dr. BYROM BRAMWELL, who had to deal with the clinical aspects of the disease. He thought it would be difficult to say anything new on the subject. The disease was common in Edinburgh and its neighbourhood; so it was in other parts of Scotland and in the north of England. It was rare in Germany, where acromegaly was comparatively common. In America also it was rare. He thought there must be some atmospheric or telluric conditions determining its prevalence. It was not described as a distinct disease till 1873. It occurred most commonly in women. It was also seen in the form of sporadic cretinism in the child. The disease presented a remarkable contrast to exophthalmic goitre and acromegaly, but with the latter it had features in common. Myxœdema began slowly and insidiously, the first symptoms being increased susceptibility to cold, inability to perspire and lassitude. Dr. Bramwell then described the appearances characterising the well-developed disease. In exophthalmos and acromegaly there was a tendency to excessive perspiration. In myxœdema there was increased electrical resistance, the reverse being the case in exophthalmos. There was no more striking feature than the improvement in the mental condition during treatment, and Dr. Bramwell referred to a sporadic cretin under treatment who had had only a thyroid and a half so far and yet her whole nature was transformed and, whereas she had only grown two inches in the preceding two years, she had since grown an inch within five weeks. The mental slowness in myxœdema was in great contrast to the excitability in exophthalmos. It was not uncommon for myxœdematous patients to have to be sent to asylums. Sight and hearing were sometimes impaired. Myxœdematous patients and cretins throve best when their surroundings were warm. The actual body heat was low, and Dr. Bramwell showed charts illustrating this and the elevation of temperature which took place under treatment; in this also the disease contrasted with exophthalmos. In acromegaly a subnormal temperature was likewise present. In the patient he was treating with the thyroid the breasts became turgid, swollen and painful.

Professor GREENFIELD then took up the pathology and morbid anatomy of the disease. His pathological connexion with the subject had been of long standing. When he was pathologist to St. Thomas's Hospital he had made the post-mortem examination of the case under Dr. Ord which was the ground of his first report on the condition, and on which was founded the name "myxœdema." The primary and most essential fact in the pathology was the atrophic change in the thyroid. There was little accurate knowledge as to the cause of the change. The functions of the gland were obscure; it was only certainly known that in some way it was concerned in the metabolic changes of the nutritive fluids and that it had some relation to the elaboration of mucin. It probably secreted a material of the nature of a ferment which passed into the blood and stimulated the secretion of the skin glands and in some way acted upon the heart. In myxœdema the gland was atrophied, in sporadic cretinism it might be almost absent. In exophthalmic goitre there was an exactly opposite condition—an enormous increase in its secreting structure and also of the colloid material in its spaces. In ordinary cystic goitre associated with cretinism there was an enormous increase in its substance. One should not regard the morbid appearances of the thyroid in myxœdema as of too great importance or exclude other considerations in relation to its function. In myxœdema the sweat glands and sebaceous glands acted defectively and the latter atrophied with other parts of the skin. The normal transpiration being deficient, the lymph seemed to stagnate and accumulate. That this was so seemed to be shown by the improvement seen after hot baths. Professor Greenfield then laid stress upon the altered reaction of myxœdematous cases to tuberculosis. They showed a marked proclivity, whilst the manifestations of the process were greatly modified. The patients in five cases from which he showed specimens died from phthisis, as also one in a case of sporadic cretinism. The phthisis was characterised by its rapid course and the absence of the ordinary symptoms of tuberculosis. He thought the power of repair in myxœdema was good, but asked for information. He had studied the material from seven cases of myxœdema and one of sporadic cretinism. In all the thyroid was diminished in size; there was either generally or in parts an advanced condition of atrophy with fibrous overgrowth. In some all gland tissue had disappeared; in others the fibrous tissue was highly cellular; in one there was a lymphoid infiltration at parts. These changes and the changes in the epithelium were parallel to those seen in all wasting glands. In the arteries there were the changes found in all interstitial inflammations. In the skin there were marked changes in all the glandular elements and in the hair follicles; they showed various stages of atrophy. Often there was extensive deposit of pigment in the skin. The epidermis became very thin. The œdema was deeply situated. The change might be called a myxomatous degeneration of the tissue affected; but in the skin, tongue and elsewhere there were sometimes areas of dense fibrous overgrowth. In the kidneys there were occasionally a swelling and pallor due to the presence of a myxomatous degeneration around the arteries at their division, and an extension of a myxomatous and cellular infiltration between the tubules in that position, whilst the cortex was normal. He had found no change in the nervous system, except in the peripheral nerves, in which there were frequently indications of a chronic neuritis. How far this was due to the disease he did not know. The lymphatic glands and supra-renal capsules were normal. A large number of photographs were shown by lime-light illustrating the points of the paper, one of these being a section of the thyroid of an old man who died of cirrhosis of the liver, which showed changes exactly resembling those found in myxœdema. This communication was further illustrated by about fifty microscopical preparations and a number of naked-eye specimens from the cases that had been examined.

Dr. LUNDIE, whose part in the opening discussion was the treatment of the disease, gave a clear and concise *résumé* of the history of the treatment by thyroid injection and feeding. He used the treatment for the first time in November, 1891, and the patient had recovered. There was a relapse when the treatment was stopped, but recovery again took place by feeding. He gave one-eighteenth of a sheep's thyroid daily. He referred to the recorded experience on the subject, and drew attention to the necessity of warning patients against unusual exertion at an early stage of the treatment.

These three communications occupied so much time that the meeting was adjourned until the following afternoon.

On Thursday afternoon Dr. AFFLECK referred to the former treatment by hot baths, rubbing &c., and showed photographs illustrating the appearances before and after treatment. He thought we were yet only collecting information and that it was important that those who had cases should record them. They should inquire into the antecedents with a view to find out the etiology of the disease, for he thought there might be some underlying nervous condition interfering with the thyroid and leading to its atrophy. Some patients became insane. He thought Addison's disease presented an interesting analogy to myxœdema and suggested feeding with supra-renal capsules. The evidence in favour of thyroid feeding was overwhelming and he welcomed it as a most important contribution to modern therapeutics. He then showed a boy with sporadic cretinism who had immensely improved under treatment by engrafting.

Cases illustrating the advantages of thyroid feeding were shown by Drs. John Thompson, Byrom Bramwell, W. Russell, A. Bruce, Melville Dunlop and Church.

Dr. MURRAY of Newcastle referred to the reasons which had led him to use thyroid extract in myxœdema. He was struck with the speedy benefit resulting from engrafting, too speedy to have been due to the development of new thyroid gland tissue, and he argued that it must be something in the gland which produced the effect. He divided the treatment into two stages, the first being the removal of the condition and the second the maintenance of the condition of restored health. In effecting the first stage it was desirable to bring it about slowly, care had to be taken that patients did not over-exert themselves, and the process ought to be carried out very slowly in persons with degenerated heart or vessels. The condition of health could only be maintained by the regular taking of the remedy; it had to be made a matter of diet rather than of medicine to the patient.

Dr. A. DAVIES of London referred to his experience of the treatment and showed a powder preparation of the gland which he had found quite efficacious. He thought the acitve principle was an alkaloid.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—The meeting, held Feb. 9th (Dr. T. Oliver, President, in the chair), was devoted to the exhibition of specimens. Dr. GEORGE MURRAY showed (1) a case of Myxœdema formerly treated by hypodermic injection of thyroid extract and now kept in health by taking the extract by the mouth; (2) a man suffering from Acromegaly.—Dr. LIMONT showed (1) two cases of Eczema, one almost cured and the other rapidly improving under treatment by hypodermic injections of pilocarpine; (2) an early case of Lupus Erythematosus: (3) an extensive case of Tinea Versicolar complicated by a secondary syphilitic eruption.—The PRESIDENT showed a man suffering from Peripheral Neuritis. There was a history of ague, but none of syphilis. The following symptoms appeared in succession: diplopia, drooping of eyelid, loss of power in the left arm, paresis of the right arm, loss of power in the legs. Headache was present, but not optic neuritis.—Dr. ROBERTSON showed (1) a case of Aortic Aneurysm with Tracheal Tugging and Paralysis of Left Vocal Cord; (2) an example of Bezold's form of Mastoiditis; (3) Sarcoma of Post-Nasum removed by galvano-cautery snare.—Dr. SMALLMAN ROBSON showed a man with many gastric and abdominal symptoms, some apparently due to dilated stomach, the result of old gastric ulcer, others to renal calculus.—Dr. HUME then brought forward (1) a man operated on for Cancer of Rectum (access obtained by removal of coccyx; sphincter and skin left externally; the upper part of bowel drawn down and stitched to skin anteriorly; the patient retained good control over the rectum); (2) a man with Fracture of Middle Fossa and Left Parietal Region of Skull; (the latter was trephined and the chopped-up fragments replaced; there was union by first intention, but subsequent discharge of fragments); (3) a boy with Fracture of Skull, where the same proceeding was carried out (union followed by first intention); (4) a case of Double Popliteal Aneurysm (the femoral was tied by Scarpa's triangle on each side, the first one two years ago, the second recently; the only indication of syphilis was a scar on the penis).

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—On Feb. 9th, the President, Mr. Simeon Snell, F.R.C.S.Edin., in the chair, Mr. J. LEWIS OWEN read the notes of a case of Retroversion of a Gravid Uterus Septus and showed the specimen. The uterus was replaced, but the patient aborted and died six weeks later from pyæmia, the result of cystitis. On post-mortem examination the uterine cavity was found to be divided into two by a septum reaching down to the internal os. The patient, who was thirty-five years of age, had given birth to three children and miscarried twice. Her labours had been normal.—Dr. GEORGE WILKINSON read a paper on Two Cases of Tetanus, with Remarks on the Etiology and Recent Methods of Treatment. The cases occurred at the Sheffield Public Hospital. One was of the cephalic variety, and was due to a wound from a kick on the right side of the forehead. Both cases were acute, the incubation period in each being six days, and the fatal termination took place in the one on the third and in the other on the fourth day after the appearance of symptoms. In the cephalic case there was paralysis of the right facial nerve with trismus and well-marked spasm of the pharynx, glottis and muscles of the back. Remarks were made on the rarity of this variety of tetanus, and cases were quoted in which the third, fourth and sixth cranial nerves were affected. An abstract of the result obtained by Behring's inoculation treatment was given. By the subcutaneous injection of large quantities of the serum of a horse made immune in a high degree against tetanus animals had been cured, and encouraging results had been obtained in the case of a man by this method of treatment. Ten cases had been treated successfully by the injection of Tizzoni and Cattani's antitoxin; none of them, however, were acute. The results up to the present obtained by the inoculation method were encouraging but not conclusive, and it presented serious practical difficulties.

Reviews and Notices of Books.

A Manual of Bacteriology. By GEORGE M. STERNBERG, M.D., Deputy Surgeon-General, U.S. Army. Illustrated by heliotype and chromo-lithographic plates and 268 engravings. New York: William Wood and Co. 1892.

THE reviewer rises from a perusal of Dr. Sternberg's "Manual of Bacteriology" with feelings of a very mixed nature. The manual claims to be a work which "fairly represents the present state of knowledge and the facts established by experimental data," whilst at the same time its author wishes it to be looked upon as a "text-book of bacteriology to students and a guide for laboratory work." Where such an enormous amount of ground has to be covered it necessarily happens that some parts at least must be very cursorily passed over, and it is not astonishing to find that the historical section occupies a little less than six pages. This, perhaps, is comparatively unimportant, as in the first place Dr. Sternberg has indicated very briefly but clearly most of the epoch-making incidents, whilst in the second we have the capital historical sketches given in Löffler's and Arloing's works, though, so far as we can see, neither of these is mentioned in the bibliographical index, certainly not under the bibliography devoted to the historical section. A short section on classification and morphology gives the routine text-book statements. The section on staining methods is essentially practical; useless methods are most studiously discarded, and only those are retained that have stood the test of the author's own experience. A useful section, too, is that on the cultivation of anaerobic bacteria, the principles on which this is conducted being well laid down and carefully illustrated by experiments. The portion treating of experiments on animals is also instructive, but Dr. Sternberg might have saved some of his readers a good deal of trouble by indicating the great value and convenience for the operator of the use of the marginal vein of the rabbit, which is by far the best in every way as a channel by which fluids may be injected into the circulation. As pointed out by French workers, the skin over it is much finer than that over any other vein and an inoculation is accomplished with absolutely no pain.

Most workers who have occasion to read this book will wish that the chapter on photography had been a little more complete. Dr. Sternberg is in every way qualified to speak with authority on the subject, as he was one of the first to obtain satisfactory photo-micrographs of bacteria; hence a little more detailed account of his methods and the results of his experience would have enhanced the value of the work in no small degree. The structure, motions, reproduction and condition of growth of bacteria are then dealt with. Under this latter heading, as elsewhere, the term "strict parasitism" is used in a somewhat elastic sense, as it includes those organisms which may be grown "in artificial media kept at a suitable temperature"; and Dr. Sternberg himself states that it seems extremely probable that the strict parasites were at one time capable of living a saprophytic existence, and that their restriction to a parasitic mode of life has been effected in course of time in accordance with the laws of natural selection. This view is supported by the fact that the tubercle bacillus, which has been regarded as a strict

parasite which can only be cultivated artificially under very special conditions, has been shown to be capable of modification in this respect to such an extent that when cultivated for a time in a favourable medium—bouillon with 5 per cent. of glycerine—it will afterwards grow even in ordinary bouillon made from the flesh of a calf or a fowl (Roux). Modifications of biological characters are dismissed in two or three pages, and then a couple of interesting sections on the products of vital activity are followed by sections on the effects of physical agents on bacteria, the most interesting part of which is that dealing with the influence of light, in which Arloing is quoted to the effect that the devitalising influence of sunlight cannot be obtained by the use of monochromatic light, but no reference is here made to Janowski's experiments with monochromatic light on the vitality of the typhoid bacillus. The chapters on antiseptics and disinfectants and the practical directions for disinfection are very full, and the latter are especially useful, evidently being the outcome of careful reading and experiment. It might, however, have been well to indicate rather more carefully the special use of the recognised antiseptics, and to point out where an antiseptic useful under one series of conditions may be absolutely valueless under others.

Of course the important part of the work is that dealing with pathogenic bacteria and we must confess to finding it singularly unequal. The modes of action and the channels of infection are first sketched, after which a very interesting *résumé* is given of what we at present know of susceptibility and immunity. This section is of special value from the fact that the author as early as 1881 had broached the idea that the leucocytes might possibly have something to do with the estruction of such bacterial organisms as find their way into the blood. A section is devoted to the pyogenic bacteria and one to those found in croupous pneumonia; the account of these latter also receives added interest from the fact that the author has devoted much attention to certain of the organisms found in this disease. The bacillus of anthrax, that of typhoid fever, bacteria in diphtheria, bacteria in influenza, bacilli in chronic infectious (? infective) diseases, such as tuberculosis, leprosy, glanders, syphilis and rhinoscleroma, are taken in the order mentioned; then the bacilli which produce septicæmia in susceptible animals; next the pathogenic anaerobic bacilli, under which are included the bacillus of tetanus, the bacillus of malignant œdema, and the bacillus of symptomatic anthrax. Pathogenic spirilla are described, and then a short description of the bacteria met with in infectious disease, not proved to be due to the specific micro-organisms, is given; this, necessarily, is very general. In the last section, on saprophytic bacteria, Dr. Sternberg gives the method of examining bacteria in air, water and soil; and then an account is given of the bacteria of the surface of the body and of exposed mucous membranes, of the bacteria of the stomach and intestines (a list of which is supplied), and also of cadavers and of putrefying material from various sources; of bacteria in articles of food and lists of non-pathogenic micrococci, of non-pathogenic bacilli, of non-pathogenic spirilla, and of the leptothrix and cladothrix, followed by lists of those bacteria not yet classified.

Altogether Dr. Sternberg gives an account, more or less full, of 489 species. As to the section on bacterial diagnosis we are afraid that only those already skilled in this subject will be able to make much use of it. This work is in many ways a mine of information, and there are no fewer than 2582 references given at the end; it is a pity, however, that, in the interests of the busy worker, no exact references are given for many of the statements made. Much time has to be spent in looking up observations and facts which might have been given in foot-notes and references, for which space might readily have been obtained by omitting many of the necessarily very imperfect descriptions of the earlier observed micro-organisms. Then, too, in an encyclopædic work of this character it might be expected that more distinction would be drawn between important and unimportant work, that many gaps would have been filled in, and that generalisations would have been made as carefully and on as complete a basis of fact as is at present obtainable. The opinion of an observer who has devoted so much time to bacteriological investigation as Dr. Sternberg undoubtedly has would have been of immense value in helping others to form an accurate estimate of the value of work already done and of determining what still remains to be done.

The publishers call attention to the illustration of this work as a feature of special importance and they have certainly reproduced many of the figures extremely well. For our own part we consider that the most valuable illustrations in the book are the photographs taken by Dr. Sternberg himself, for although it is necessary in such a book that illustrations of apparatus and the like should be taken from instrument makers' catalogues the advisability of a reproduction of illustrations taken from other sources, especially when it is impossible in any work of this kind to give more than a selection, however large that selection may be is questionable. The plan of introducing coloured illustrations, which originated in Great Britain and was afterwards followed in France, is here also used, in some cases with advantage, but in others—where a single colour only is employed—with no particular gain, unless it be to diminish the number of printings. Colours are a distinct advantage where there are two sets of outlines to be brought out, but they are of no special advantage where one set only has to be depicted. Had the work not been so good we should not have devoted so much time and space to its consideration, and whilst drawing attention to some of its failings we do so only to emphasise the many good features of Dr. Sternberg's manual.

A Dissertation on Osteo-arthritis. By W. H. RUSSELL FORSBROOK, M.D. Lond., M.R.C.S., Consulting Medical Officer to the Government of the Cape of Good Hope; formerly Surgical Registrar to Westminster Hospital. London: H. K. Lewis. 1893.

THIS essay was prepared as a thesis for the degree of Doctor of Medicine of the University of London. The first chapter is devoted to a review of the literary history of the disease, in which the gradual development of knowledge is clearly brought out; the separation of the disease from gout and acute rheumatism, and the various views as to the nature of the affection being the most striking points. The etiology, morbid anatomy, pathology, clinical history and treatment are subsequently discussed. Dr. Forsbrook shows himself well acquainted with the literature of the subject, and to be an acute and accurate observer. He has not been content with merely following in the wake of others who have written of this disease. Having noticed in all the cases that came under his observation more or less marked anæmia, he made a series of careful examinations of the blood, and in all cases found a decided deficiency of hæmoglobin. He suggests that the deficiency of oxygen thus induced stimulates the vaso-motor centre in the medulla oblongata and so causes contraction of the arterioles supplying the articulations and the nerves distributed to the joints; this leads to degenerative changes. When these centres are exhausted an opposite effect—vascular dilatation—is produced, and this leads to the so-called inflammatory changes. He supposes that the arthritic diathesis produces a special instability of the vaso-motor centres of joints. He is inclined to accept Mr. Hutchinson's view of a general arthritic diathesis, which under one set of conditions develops gout and under others rheumatism. Dr. Forsbrook's theory is ingenious, his facts are valuable, and his essay will prove interesting to many readers.

LIBRARY TABLE.

WE have before us the *Journal of State Medicine*, being the third number of the first volume. It is the official quarterly journal of the British Institute of Public Health, and contains a number of important papers. Dr. H. Mansfield Robinson, LL.D., whose official connexion with the important and populous vestry of Shoreditch lends weight to his remarks on Legal Hints on Sanitary Inspection, treats his subject with acumen, and in an interesting manner. The Medico-legal Importance of Ptomaines is discussed by Dr. A. C. Farquharson, who instances cases in which the gravest decisions depended upon a scientific investigation of great subtlety and difficulty. Dr. C. R. C. Tichborne, Ph.D., discusses the value of Sulphite of Zinc as an Antiseptic in Typhoid Fever and Cholera. Mr. Miller, M.B., D.P.H. Glas., joins issue with those who maintain that the early stages of pulmonary phthisis are due to tuberculosis, and emphasises the value of climatic and vital considerations. The remaining original articles are: A Brief Account of some of the Most Recent Bacteriological Investigations, by E. J. McWeeney, M.A., M.D.; and an Abstract of a Paper on Mental and Moral Evolution, by Miss Charlotte A. Smith. The journal is under the able editorship of Dr. Wm. R. Smith, who combines medical and legal qualifications for the task. The production of the work reflects credit on the F. A. Davis Company of London and Philadelphia, who are the publishers.

IN the *Bacteriological World* for November and December, 1892, there is published amongst the original articles a continuation of M. Metchnikoff's study of immunity, in which he describes the resistance of rabbits treated with serum and gives the conclusions already recorded in the "Annales de l'Institut Pasteur." Dr. Kellogg concludes his article on the new chemistry of the stomach. He gives a form of table employed in his experiments which may be of use to those who are working at the subject. Dr. R. Riley's contribution to the study of progressive muscular atrophy deals with the nerve and vascular changes in the parts affected. The remainder of the number is made up of translations; one on the glycogenic function of the liver, by Dr. Dujardin-Beaumetz, is of interest, especially when taken in connexion with the work that has recently been done with regard to various forms of diabetes. In the part of the journal devoted to technique we find a new method of staining spores described, and there is an account of Kühne's anise oil as an embedding material for use with the freezing microtome, the great advantage of this method being that this oil becomes solid at comparatively high temperatures, so that very great reduction of heat is not necessary and the tissues are not destroyed or expanded.

The Journal of Physiology. Edited by Professors FOSTER, RUTHERFORD, BURDON SANDERSON and SCHÄFER. Vol. XIV., No. 1. Cambridge: Engraving Company. January, 1893.—This number contains the following articles: 1. W. H. Howell and G. C. Huber: A Physiological, Histological and Clinical Study of the Degeneration and Regeneration in peripheral Nerve Fibres after severance of their connexions with the Nerve Centres. 2. C. S. Sherrington and S. Monckton Copeman: Variations experimentally produced in the Specific Gravity of the Blood. 3. Warren P. Lombard: Alterations in the Strength which occur during fatiguing Voluntary Muscular Work. The Editors of this journal append a notice that, owing to the increasing supply of material accepted as suitable for insertion, the volume will no longer be an annual one, but will be complete when about 500 pages have been issued.

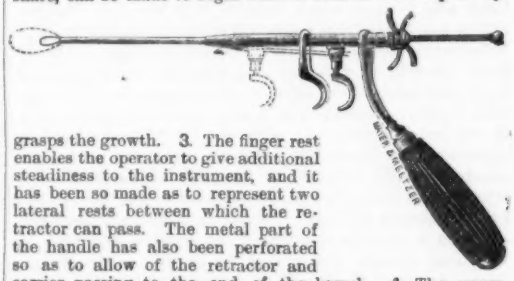
The Quarterly Journal of Microscopical Science. No. CXXXV. Edited by Professors LANKESTER, SEDGWICK, MARSHALL and WELDON. London: J. & A. Churchill. January, 1893.—This part contains the following Memoirs: 1. On the Relationships and *Rôle* of the Archoplasm during Mitosis in the larval Salamander, by John E. S. Moore; with a plate. 2. On the Occurrence of embryonic Fission in Cyclostomatous Polyzoa, by Sidney F. Harmer; with three plates. 3. Two new Genera and some new Species of Earthworms, by Frank E. Beddard; with two plates. 4. Observations on the Gregarines of Holothurians, by E. A. Minchin; with two plates. 5. A new Sporozoon in Amphioxus, by E. C. Pollard; with a plate. 6. Studies on the Protochordata, by Arthur Willey; with a plate.

Archives of Surgery. By JONATHAN HUTCHINSON, LL.D., F.R.S., F.R.C.S., Consulting Surgeon to the London Hospital, and late President of the Royal College of Surgeons. Vol. IV., No. 15. London: J. & A. Churchill. January, 1893.—This number is of the same character as those which have preceded it. It is full of suggestions, brief clinical records and rare cases, and testifies to the immense fund of good clinical observations the distinguished author has accumulated.

New Inventions.

NEW ÉCRASEUR SNARE.

THERE are so many nasal snares that another would at first sight appear like the proverbial straw, nevertheless I venture to submit this one, of which the accompanying engraving and account give a fairly accurate idea to my professional brethren. The advantages I claim for this snare I have grouped under the following six heads:—1. It can be held and worked by the same hand. 2. The wire loop, when surrounding tissue is to be removed, can be quickly made smaller by the index finger drawing the retractor towards the finger rest, whilst the écraseur wheel, which is kept in contact with the barrel by the thumb of the hand holding the snare, can be made to begin work so soon as the loop firmly



grasps the growth. 3. The finger rest enables the operator to give additional steadiness to the instrument, and it has been so made as to represent two lateral rests between which the retractor can pass. The metal part of the handle has also been perforated so as to allow of the retractor and carrier passing to the end of the barrel. 4. The screw of the carrier bites sufficiently firmly to hold the wire whilst passing through the densest tissues. The nut of the carrier is worked by a key which is kept, when not in use, in the handle. 5. As the point is separate from the barrel any form can be used. 6. An uninterrupted view of the nose, throat or ear can be obtained during operation on either of these organs, as the snare is worked entirely from its under surface. In conclusion, I would thank Messrs. Mayer and Meltzer, of Great Portland-street, for the able manner in which they have carried out my instructions.

GRIFFITH CHARLES WILKIN.

THE "PLATINUM" ANTI-CORSET.

THE "Platinum" Anti-Corset which has been submitted to us by the firm of Herts, Son and Co., Limited, Ridgmount-street, Tottenham-court-road, is the result of an endeavour to combine all the elements of a corset as regards providing rational support to the figure *without* compression. It consists practically of a bodice made in either cotton or woollen materials and fitted with "platinum" bones arranged in longitudinal casings to permit of easy removal for washing. There is no busk or piece of steel at the front, and therefore one of the greatest dangers of the ordinary corset is removed. It buttons at the neck like a bodice, and

is provided at the lower part with buttons, to which the skirts can be attached; the weight of the clothing is thus mainly borne by the shoulders instead of by the hips. One of the chief features is the ease with which the garment can be washed, unlike ordinary corsets, which are usually worn until their condition is anything but sanitary and health preserving. From the point of view of health and comfort the articles will readily commend themselves.

HARTMANN'S NEW STERILISED DRESSINGS.

WE have received from the Sanitary Wood Wool Company, Limited, samples of their dressings, packed in parcels so as to secure perfect sterilisation of the contents. The packet is wrapped in thick parchment paper, glued and closed before it leaves the sterilising apparatus. At each end of the package a plug of raw cotton wool is placed, through which the steam passes in and out before the cord is drawn tight. This method is used in preparing dressings of wood wool wadding and tissue, cotton wools and gauzes. The company, which has applied for a patent, claim that they can produce and preserve perfectly aseptic dressings by this method and supply them at a rate cheaper than those produced by other methods. We can recommend these dressings to the profession.

NEW FORCEPS FOR THE EXTRACTION OF BULLETS.

MESSRS. EVANS AND WORMULL of Stamford-street, S.E., have sent us a specimen of their new forceps for the extraction of bullets. In these forceps, shown in the illustration, certain advantages are claimed:—1. They are made with four teeth, finely tempered to withstand the exceptionally hard nickel with which the bullet is covered, and to exactly fit it. 2. The joint being placed further back, whilst it gives a firm and solid grip, at the same time enables the mouth to be widely opened, though the entrance wound may be extremely limited in size. 3. The rack at the bows enables the object to be firmly retained during removal. 4. The blades are so arranged that even when the mouth of the forceps is well opened whilst searching for the bullet they take up no more room than the width of the single blade. 5. They are equally adapted for the removal of any foreign substance from the wound. The formation of the instrument is the result of suggestions which have been made to this firm by Surgeon-Major Pratt of the Army Medical Staff.

FUNGI AS POISONS.

THE second lecture of the series recently delivered at the Royal College of Surgeons by Dr. C. B. Plowright, on "The Action of Fungi on the Human Body," dealt principally with the subject of fungi as poisons. Dr. Plowright pointed out that the most important fungus as a poison is Agaricus phalloides. Falck collected fifty-three cases of poisoning by it, of which forty were fatal. More recently H. Koppel, between 1880 and 1890, found forty additional cases. This fatality is partly due to its being mistaken for the common mushroom, to which it bears a slight resemblance, and partly to its toxic properties not manifesting themselves until after its absorption into the blood. It is easily recognised by its permanently white gills, hollow stem with a large bulbous base, and its glossy pileus, at first often green or yellow, but becoming with age almost white. Cases have been recorded in this country,[1] but they are much more frequently met with abroad. There are no symptoms for ten to twenty-four hours; then vomiting, purging, giddiness, great prostration, abdominal pain, collapse, cyanosis, sweating, delirium, coma, jaundice, various skin eruptions, sometimes meningitis, but especially hæmoglobinuria, methæmoglobinuria, hæmaturia, choluria, albuminuria and anuria may occur. The post-mortem signs are jaundice, absence of rigidity, multiple ecchymoses, especially of the liver and alimentary mucous membrane, gastro-enteritis, peritonitis, localised gangrenous spots on the gastric or intestinal mucous membrane, hyperæmia of the meninges, fatty degeneration of the heart and liver, and fluidity of the blood. Boudier considered its toxic principles to be an alkaloid, bulbosin, but Professor Kobert of Dorpat, who has recently been working on the subject of fungus poisoning,[2] and to whom we owe most of our recent information on this subject, finds it to be a vegetable toxalbumen allied to ricin and abrin, which he calls phallin. The action of phallin is to destroy the red blood-corpuscles. Water, or a solution of salt-and-water, readily dissolves out the phallin from the fungus, from which solution it is precipitated by heat. Such solutions, injected into the veins of living animals, soon give rise to symptoms of poisoning. Phallin also occurs in, and is the toxic principle of, Agaricus mappa, verna, recutita and porphyria. It is insoluble in alcohol and does not pass through the dialyser. It is not destroyed by keeping the fungus in a dry state. One part in 125,000 of the physiological solution of sodic chloride dissolves the red corpuscles of mammalia; 0·5 milligramme per kilogramme injected intravenously in cats, dogs and rabbits causes, in from twenty to thirty minutes, the serum to become reddish and the urine bloodstained. By the dissolution of the corpuscles fibrine is liberated; hence the animals are liable to the formation of thrombi in the liver. The further changes are staining of the intima, multiple ecchymoses and fatty degenerations, especially of the liver. In fact, Kobert points out the similarity between its action on cases of phosphorus poisoning and acute yellow atrophy of the liver. The urinary tubules lose their epithelium and allow the transudation of the hæmoglobin. This is followed by anuria and uræmic symptoms. Intense redness of the mucous membrane exists from the pylorus to the anus. The glands of the mucous membrane disappear and the ganglionic cells of the heart and nervous system are also affected. Agaricus muscarius, Agaricus pantherinus and Boletus luridus are considered by the same author to form a second group of poisonous fungi. With these species symptoms often occur within an hour or an hour and a half, and death may ensue in from six to ten hours. The active principle here is an alkaloid—the well-known muscarin of Schmiedeberg. In Agaricus muscarius this is associated with a form of atropin ("Pilzatropin") which modifies the action of the muscarin, so that in some cases of poisoning by this fungus the contraction of the pupil and salivation may be absent. Muscarin stops the frog's heart in diastole, but the application of atropin causes its contractions to recommence. Dr. Lauder Brunton found that muscarin produced contraction of the pulmonary arterioles, as was shown by blanching of the lung tissue in a living rabbit.

A third alkaloid, the amanitin of Letellier, is also present in Agaricus muscarius. This, Kobert states, is to be found in most fungi, both edible and poisonous. Of itself it is practically without action on the animal organism, but it is apt—as, for instance, by the incipient decay of the fungus—to pass into lecithin and neurin, and thus to give rise to gastro-enteritis. After death Brieger states it is often to be found in the bile as cholin, and in the other tissues as neurin. This is the explanation of the symptoms of poisoning which are sometimes caused by the common mushroom and other edible fungi.

Helvellic acid, which occurs in Helvella esculenta, has been particularly studied by Böhm, Külz and Bostroem. The dried fungus is harmless. Helvellic acid is removed by water, so that the broth in which the helvellæ have been cooked is more poisonous than the fungi themselves. Its action resembles that of phallin, and causes an analogous train of symptoms from dissolution of the blood corpuscles. Lastly, cases of poisoning from the small black-spored agarics are not infrequent in Great Britain. They occur from such species as Agaricus campanulatus, semi-globatus, semi-lanceolatus &c. They are seldom fatal, as the symptoms, of which giddiness and delirium are frequent, occur soon after the fungus is eaten, and an emetic sets matters right.

[1] Plowright: THE LANCET, vol. ii. 1879, p. 941. A. S. Taylor: Guy's Hospital Reports, 1865.
[2] R. Kobert, Lehrbuch der Intoxikationen, 1893, Stuttgart, Ferd. Encke.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 25, 1893.

THE most important piece of intelligence with regard to cholera which comes to us this week in connexion with the prospects for this country is the account of the Conference of Officers of Port Sanitary Authorities held at the Mansion House on the 17th inst., under the immediate auspices of the Lord Mayor, who has on many occasions and in various ways shown how keen is his interest in anything that relates to the public health. The representatives who assembled were a numerous and important body; many of them have borne the burden of protecting the country to the best of their ability during the past autumn, and both by reason of their experience and of the nature of their services the opinions which they expressed deserve very careful and attentive consideration.

No less than fifteen separate resolutions were passed with entire or almost complete unanimity. One embodied a demand for financial help from the Government in the form of a subvention for port sanitary purposes. This is a subject as to which there will be much sympathy with the port authorities; a heavy burden is cast on some of them, and they not only bear the first stress of the pressure when the risk of cholera importation occurs, but, as was the case last autumn, they may be the only authorities who have an extra burden to bear with a view to protect the public generally. Some ports derive a distinct and a very substantial pecuniary advantage by reason of the shipping which enters their docks, and this, in the opinion of some, constitutes a reason why, on such occasions as those now in question, they should bear the additional cost which becomes necessary by reason of a cholera emergency; but there are ports where no such advantage accrues to the port authority, and any extra burden becomes a matter of very serious importance. Imperial subventions are not the order of the day just now, and Sir WALTER FOSTER'S remarks at the dinner which followed the Conference indicate that it may not be easy to induce the Government to come to the help of port, as opposed to riparian and inland, authorities in the manner desired; but the subject deserves very careful consideration, and it is quite possible that before long it may be brought before the House of Commons.

Many of the other resolutions did little more than affirm the conclusions which were arrived at some weeks back at the Conference of Port Medical Officers of Health. With some of these we dealt with at the time and we see no reason to modify the views then expressed. The desire to treat arrivals from infected ports in the same way as vessels actually having cholera on board is laudatory in one sense, especially when the port officers profess themselves ready to maintain medical inspection both by night and by day; but one speaker from Dover showed how impracticable such a scheme would be at that port, where, after the shortest of sea voyages, no less than 200,000 people arrived from abroad last year. If a few cases of cholera should occur at Calais or Boulogne this year, in the same way as they did last year, the labour involved in a compulsory fulfilment of the terms of the Cholera Order for this vast number of people would be immense, and the restrictions involved would probably bring the whole scheme into disrepute. Well might the representative from Dover say that the Government must bear the expense of any such work, and well may the Government hesitate to offer to pay the bill for work of this sort, which at such a port can only have the smallest possible influence in keeping cholera out of the country.

Dr. COLLINGRIDGE had, perhaps more than some of his colleagues, a due sense of the importance of not imposing useless restrictions on commerce and of not asking from the Government that which could not be usefully supplied. Thus, when the question as to requesting the Government to issue a list of infected ports was raised he very wisely opposed it. During the whole of the prevalence of cholera in Paris in 1884 and last summer people arrived in England from the French capital without let or hindrance; but supposing that our Government had announced that Boulogne and Calais were infected by reason of the few cases of cholera that occurred in those ports, then we should have established the anomalous conditions, first of a free passage into England from a city where hundreds of cases of cholera had occurred, and afterwards of restrictions imposed on people from the same infected city because they happened to take ship at one of the ports named after the occurrence there of a few cases of cholera. Besides which, any such action would only serve to divert traffic from one port to another, the people still arriving amongst us just as heretofore from inland infected cities.

The question as to granting powers for detention of vessels for the purposes of medical examination is a really important one. There are circumstances when such detentions seem to be absolutely necessary; but, on the other hand, there are cases—like that of Dover with its 200,000 arrivals—where compulsory detention would tend to become an absurdity. The present arrangements are, however, much too dependent on the mere good will of Customs officers; they are hampered by ridiculous and vexatious regulations under the antiquated quarantine laws, and, whatever may be ultimately decided upon, it is to be hoped that we shall soon have one authority for health purposes in each port, and that this authority shall be the port sanitary authority acting under the advice of its medical officer of health and under the regulations of the Local Government Board. The details involved in certificates under the Quarantine Act and in the methods adopted in acquiring the information on which those certificates are based are such as could hardly bear the light of any intelligent criticism; and yet we are content to go on working with this worn-out system, trying at the same time to graft on to it the modern and more reasonable requirements of our present port sanitary administration.

It is generally understood that an effort will be made to bring the various resolutions passed at the Conference under the personal notice of the President of the Local Government Board by means of a deputation. If this proposal is carried out, it ought to be so managed as to bring to the fore the more essential matters as to which alteration in our present methods is desirable, and to leave out of notice, for a while,

such points as port sanitary officers are not agreed upon, and as to which it is desirable that a discretion should be exercised according to the differing circumstances and various requirements of individual ports.

THE Scottish Universities have no better friend than Sir JOSEPH LISTER, and the same remark would not be inapplicable to the members generally of the Edinburgh University Club whom he recently addressed in words which we reported briefly at the time (*vide* THE LANCET, Feb. 11th). It is true that Sir JOSEPH LISTER is not a graduate—save in an honorary sense—of a Scottish University; but it is equally true that his connexion with the Universities of Scotland has been of the most stimulating and eventful character. About forty years ago he was house surgeon to Professor SYME, whose character and whose surgery so impressed his house surgeon that ever since Professor SYME has been his great hero—a type of all that was sound and true and candid in surgery. A few years later Mr. (now Sir J.) LISTER had become Professor of Surgery in the University of Glasgow and Surgeon to the Glasgow Royal Infirmary. It was in the year 1867, whilst holding these posts, that he published his epoch-making papers in THE LANCET on the Antiseptic Use of Carbolic Acid in Surgery. Thereafter he became Professor of Clinical Surgery in the University of Edinburgh. By his antiseptic doctrines and by various original researches, which this is not the place to specify, he added fame and lustre to the Scottish school of medicine, for which he has ever since had a warm affection.

We say this much in order to justify our belief that words spoken by Sir JOSEPH LISTER will not be disregarded by those who have the interest of the Scottish Universities at heart. At the dinner of the Edinburgh University Club he expressed in no doubtful words his misgiving as to two points of new departure in the policy of the Scottish Universities, both of which have been criticised in the columns of THE LANCET. The first subject on which he spoke feelingly, as he must have spoken with absolute disinterestedness, was that of the reduction of the salaries of Scottish professors. Some of these salaries have undoubtedly been large and such as to excite the envy of teachers in other places. But there was great force in the quiet words of Sir JOSEPH LISTER. These salaries are often not augmented by the income which is derived in larger places, as in London, from private practice. In respect of some chairs—chemistry, physiology, pathology, anatomy, natural history and botany—it is assumed that the professor does not engage in private practice. Even where he does so the duties of his professorship, with five lectures a week for five of the principal months of the year, are a great restriction on his powers of private practice even if that were as obtainable in the Scottish cities as it is in London. It is right, too, as Sir JOSEPH LISTER remarked, to compare these high salaries with the incomes of men engaged in commerce or at the Bar in order to arrive at a just conclusion as to their reasonableness. We are not unmindful that this criticism mainly arose not from the fact that the Scotch medical professor has had so much, but rather on account of his assistant, on whom so much labour falls, having had so little. This is an inequality and an injustice which needs redress, and which the proposal to reduce the salaries of the Scottish professors in the medical faculty is intended to redress; but we agree with Sir JOSEPH LISTER that the policy of seriously reducing the emoluments of the professors is not a reasonable one or one likely to promote the interests of the Scottish Universities. If it is carried too far the best men will not be forthcoming for the work of teaching, and the interests of science and teaching will alike suffer.

It was very gratifying to us that Sir JOSEPH LISTER also expressed with much decision his misgivings as to the proposal of the Scottish Universities' Commissioners to recommend the creation of diplomas or certificates, as they are for the present called, in special branches of the great art and science of medicine and surgery, which are to be granted after a year of extra study and a special examination, and which are supposed to send their inexperienced possessors out into the world with a label of superiority and a guarantee of special knowledge. The existing degrees are to be regarded as "lower degrees"—very commonplace things indeed; and the real distinction is to lie in the possession of these "special" certificates. We have some means of knowing the feeling of Scottish graduates in London on this proposal, and we have no hesitation in describing it as very hostile to its adoption. We do not gather that it has yet passed into law. It is only contemplated by the commissioners. It is to be hoped that Sir JOSEPH LISTER'S views and those of others equally solicitous for the fair fame of the Scotch Universities will be seriously reconsidered by these gentlemen before they commit the University to a doubtful and undignified course of action. The glory of a University is in the soundness of its culture and in the standard of its examinations for regular degrees. If its professors or commissioners disparage such degrees they convict themselves and their University of unfaithfulness. We commend Sir JOSEPH LISTER'S remarks to the serious attention of the commissioners, and assure them that they express the views of many of the best friends of the Scottish Universities.

THE action of Tibbits *v.* Alabaster, which was last week tried in the Court of Queen's Bench, has been commonly referred to as if the plaintiff in that action were in some sense representing the medical profession—and, indeed, his leading counsel, Sir RICHARD WEBSTER, very ingeniously suggested to the jury some such view of the situation. It is necessary, therefore, to say that this is not the case. Dr. TIBBITS, the plaintiff in that action, happens to be a medical man, but that does not of itself constitute him a representative of the profession to which he belongs; and in all that relates to this matter he has entirely put aside his medical capacity. The action was founded upon an article which appeared in the pages of our contemporary the *Electrical Review*. The article was founded upon a pamphlet advertising "Electropathic" belts, and the pamphlet was embellished by a certificate written by Dr. TIBBITS, which set forth the conditions of an experiment made by the writer to determine the electro-motive power of one of these belts and the path within the human body of the current by it generated, together with the inferences which he drew from the results of his experiment. But in what he wrote Dr.

TIBBITS carefully abstained from pronouncing any opinion upon the therapeutical value or curative properties of the current to the existence of which he certified, and it was therefore purely in the character of an electrician and with no reference whatever to any medical question that he wrote. It was in the same capacity that he was criticised. The article of which he complained attributed to him "incredible ignorance," but it was "incredible ignorance of *electrical laws*," not of medicine, and although the writer did suggest that the British Medical Association should interfere, the reason assigned for the exercise of its interference was that Dr. TIBBITS had contributed to the bolstering up of a piece of quackery. The attack, therefore, was a personal one, and in resisting it Dr. TIBBITS undertook the defence of no professional interest whatever, but only that of his own reputation. It is matter for regret that he should not have been in a better position to maintain his reputation as an electrician before the jury, but a reflection of that sort is suggested, not so much by the ill success of his action, which, indeed, appears to us to have met its deserts, but by the fact that he had allowed himself to get into a very unfortunate position. The study of electricity, though not incumbent upon medical men in the present state of knowledge, is a very fitting occupation for the practitioner who has time and aptitude for its due prosecution. But if a medical man chooses to set up as an electrician he is bound to make himself master of his subject to the extent at least to which his authoritative utterances challenge credit for his theoretical knowledge or his manipulative skill. It was admitted, even by counsel on Dr. TIBBITS' behalf, at the trial that in saying that the elements of the belt could be joined up either for "quantity or intensity" he had fallen into error, and it was proved beyond dispute, by evidence which it was impossible to controvert, that the experiment which he made and the results which he obtained did not in any sense establish the conclusions which he drew from them. Such errors, when made and propagated by persons whose position enables them to command the respect of the less instructed public and to give colour and support to mischievous popular notions, deserve the "sharp and pungent" criticism which was administered to Dr. TIBBITS by the *Electrical Review*. Far from discerning in such criticism any attack upon the medical profession, we recognise that the editors of that journal have discharged a thankless public duty in a most praiseworthy manner, and are entitled to the gratitude no less of medical men than of any other class in the community for having exposed the worthlessness of testimonials by which an ignorant *clientèle* is induced to attribute fabulous virtues to the much advertised nostrums or appliances such as those with which the plaintiff permitted his name to be connected.

A "BILL to amend the Law as to Provisions supplied to Seamen" has been issued, and as it is backed by shipowners like Mr. C. H. WILSON, prominent members of Parliament like Colonel HOWARD VINCENT and Mr. JOHN BURNS, Mr. DIAMOND, Dr. CLARK and the Secretary of the Seamen's Union, Mr. J. H. WILSON, there would seem to be a fair chance of its passing the House of Commons, if any private members' Bill can pass during the present session. The Bill would legalise most of the improvements which were pointed out in our Special Commission on Seamen's Dietaries, the report of which we published on the 11th inst. Every seaman and apprentice on any British ship is to be supplied, under the terms of the Bill, with provisions and water, according to the new minimum scale suggested by the Merchant Shipping Victualling Scale Committee, which was composed almost exclusively of shipowners. From this scale having been accepted by the promoters of the Bill it would appear that the representatives of the sailors as well as of the shipowners are satisfied with the new scale that is suggested. It is in the way of diversity an excellent scale; in the quantity of beef, pork and preserved meat supplied to each man it is in excess of the navy scale, and the bread, flour and rice taken together are practically identical in both scales. A supply of provisions closely assimilated to that in use in the navy, where complaints of under-feeding are rare and scurvy is now unknown, will be a great advantage to the merchant sailor if fixed by law as his minimum scale. But, as we pointed out, the work of the sailor on board sailing ships, especially on long voynges, is more onerous than that performed by the sailor in the navy, for the complement of men per ship is far less; and we still think that a pound and a quarter of meat daily and a pound and a half of bread and flour together, in addition to whatever other carbohydrates are added, would be still further improvements to the dietary and would but very slightly increase its expense.

But the alteration from the old minimum scale of 1854 and the special long voyage scale to the proposed new minimum scale is so very advantageous to the sailor that it is almost unnecessary to find fault with it. Proper inspection by the officials of the Board of Trade has been carried out during the present year, and we are glad to see that, as we suggested in the report of our Commission, it is intended that every agreement should contain a statement of the revised scale instead of the blank form which is now in force. This will entail a little more work on the inspecting officers, who will have to see that the quality and quantity of the provisions is in accordance with the stipulated scale, but it will be much more satisfactory to the sailor than merely signing a skeleton form with the term "usual" scale written against it.

The penalties for carrying a deficient or unfit supply of provisions will be raised to £50, if neglect or default be proved against the master or owner; in every way the food of the British merchant seaman will be much more varied and better adapted to his special avocation than has been the case in the past. In addition to the practical annihilation of scurvy, dyspepsia and gastric complaints from which so many sailors of many years' standing now suffer will become very much less frequent causes of chronic ill-health. The shipowners' committee deserve well of the community for putting forward such a liberal and well-considered scheme, and we hope that very soon every merchant seaman will be legally entitled to have it fully inscribed on his articles when he is asked to sign them.

PRESENTATION.—Dr. Robert Skimming of East Molesey, Surrey, has been the recipient, from the members of the Court Good Intent of the Ancient Order of Foresters, of a silver cup, as a token of their respect and appreciation of his professional services to the club during the past twenty-three years.

Annotations.

"Ne quid nimis."

VISIT OF H.R.H. THE PRINCE OF WALES TO THE LAMBETH INFIRMARY.

THE Prince of Wales is one of the kindest of living Englishmen, and he has not done a kinder thing than when he paid a visit to the Lambeth Workhouse on the 17th inst., inspected the wards in his practical fashion, and saw the dinner served. The Prince was attended by Colonel Stanley Clark and Mr. Hedley (Local Government Board Inspector). Dr. Robert H. Lloyd (Medical Superintendent), Mr. J. V. Blachford and Dr. J. Smith (medical officers) accompanied his Royal Highness through the wards. He took great interest in the institution and details of administration and spoke to several of the patients. He was also much interested in the accommodation provided for the nursing staff. The Prince appeared much pleased with his visit, which lasted about an hour. His action in this respect will brighten the thoughts and the prospects of those who are unfortunate enough to find themselves inmates of a workhouse and will show them that in the very highest quarters there is a sympathy for them and a desire to see their lot alleviated.

THE INTERNATIONAL MEDICAL CONGRESS.

AN Italian correspondent writes under date, Rome, Feb. 13th:—"To-day, in the University, a meeting was held of the various organising committees of the scientific sections of the eleventh International Medical Congress in order to proceed to their definitive constitution. For the presidents of these sections, fifteen in number, a ballot was taken and the results were the following:—(1) Anatomy, Professor Todaro of the University of Rome; (2) Physiology, Professor Moleschott of the same school; (3) General Pathology and Pathological Anatomy, Professor Bizzozero of Turin; (4) Pharmacology, Professor Semmola of Naples; (5) International Medicine, Professor Guido Baccelli of Rome; (6) Surgery, Professor Durante of the same university; (7) Obstetrics, Professor Pasquale, also of that school; (8) Laryngology, Professor Massi of Naples; (9) Otology, Professor De Rossi of Rome; (10) Ophthalmology, Professor Raymond of Turin; (11) Military Medicine and Surgery, General Baroffio, M.D., of Rome; (12) Hygiene, Professor Paglieni, also of the Roman School; (13) Dermatology, Professor De Amicis of Naples; (14) Legal Medicine, Professor De Crecchio, likewise of Naples; and (15) Odontology, Dr. Coulliaux of Milan. A happier choice for the presidential posts of these fifteen sections could not have been made. Every name above given will at once commend itself to all who are familiar with the recent annals of the healing art in Italy as of commanding weight and influence—'representative' in the best acceptation of the word. By a fortunate coincidence, moreover, the *amour propre* of the three divisions of the Italian kingdom—the northern, the central and the southern—has in no case been wounded—nay, on the contrary, legitimately gratified. Turin and Milan represent the first of these, Rome the second and Naples the third. This is just as it should be, and once more gives earnest of the harmony that may be expected to characterise the proceedings of the great triennial meeting of the profession. An announcement comes from Piedmont to the effect that a strong committee has been formed to make the participation of the sub-Alpine school in the Congress as full and influential as possible. Its president is Professor Carlo Reymond, its vice-president Dr. Pietravalle and its secretary Dr. Giacomo Peroni; while among its *personnel*—whose names will be at once recognised in England—are the Senator Professor Pacchiotti, the Senator Professor Bizzozero, Professors Foa, Perroncito and De Silvestri, and Drs. Mosso, Vinay, Morra, Garelli, Oliva and Laura. Its work will be to secure adhesions to the list of intending participants at the Congress, to facilitate their arrival in Rome and to promote their convenience there, not only in attending the sittings, but also in taking full advantage of the splendid 'Esposizione' already in progress. Announcements of other committees formed with the same objects reach me from sister Italian schools hardly less important than that of Turin or Genoa. From Florence, for example, comes the intimation that, on the initiative of the 'Associazione Medica Italiana di Idrologia e Climatologia,' a section of Hydrology and Climatology will be added to the fifteen sections already enumerated. The Pharmaceutical calling will also have special facilities provided for its assisting at the Congress, so that all 'laureati' (graduates) in pharmacy, whether Italian or foreign, will share in the advantages secured to the 'Congressists' by the Organising Committee."

THE PREVALENCE OF SMALL-POX.

THERE has been a distinct abatement in the amount and extent of small-pox in the provinces during the last ten days. Whilst, however, this is satisfactory, it will be unwise to draw the conclusion from it that the epidemic prevalence as such is abating. As a rule, the month of March is the one in which the largest increase of small-pox may be expected, and until it is passed it will be well to reserve any prophecy as to the future of small-pox during the current year. The disease is still heard of either as being prevalent or as occurring in isolated attacks at a number of places amongst which we may note the following:—Bradford, Burton-on-Trent, Carlisle, Coventry, Derby, Dukinfield, Exeter, Ferndale, Fryston near Castleford, Halifax, Hipperholme, Hanley, Huddersfield, Hull, Ipswich, Keighley, Kirkheaton, Leeds, Leicester, Longton, Liverpool, Manchester, Middleton, Middlesbrough, Neath, North Bierley, Northampton, Nottingham, Oldham, Rhondda Valley, Ripon, Rotherham, Sheffield, Stalybridge, Stockport, Southampton, St. Helens, Tottenham, Wimbledon, Willesden, Warrington, Wigan and York. Amongst the places where a substantial number of fresh cases occurred last week are Keighley, Halifax, Huddersfield and Southampton (where 5 new attacks occurred), Leicester, Liverpool, Warrington and York (where 6 new attacks were reported), Oldham (with 18) and Manchester (with 20 fresh cases). Halifax was visited last week on behalf of the Royal Commission on Vaccination by Dr. Sidney Coupland. In the metropolis the number of cases is somewhat rapidly increasing. There are between 140 and 150 cases now in the hospital ships.

"BRANDY-AND-SODA."

WE are constantly hearing from France that brandy is enormously adulterated; it has even been said to be doubtful whether real genuine cognac, except at fabulous prices, is obtainable. But when the public learn that soda water rarely contains soda they will probably be desirous to know what the composition of the once popular "brandy-and-soda" really is. In a case recently reported in a contemporary two licensed victuallers were charged under the Foods Act, Section 6, with selling soda water which contained no bicarbonate of soda. After the hearing of considerable evidence the Bench decided that the Act was infringed, and the defendants were fined ten shillings each. On application of defendants' counsel to the Bench to state a case for appeal it was granted "by all means." We must therefore abstain, of course, from commenting upon the points at issue, which turned mainly on whether it is generally understood that the term "soda water" implies merely

water impregnated with carbonic acid gas or the same water containing a definite proportion of bicarbonate of soda. Meanwhile the final decision will be awaited with great interest by the mineral water trade. In the same issue of the paper referred to there is, oddly enough, a paragraph devoted to the adulteration of French brandy, in which it is stated that nine-tenths of the ordinary "brandy" sold by retailers as *eau-de-vie* is greatly adulterated. It is proposed that the State should take over the monopoly of spirits. By so doing it is pointed out the budget would be benefited to the extent of a *milliard*, whilst the public health would no longer be endangered by the effects of spirits which are adulterated in a most deplorable manner by private individuals. Meanwhile we are sure the profession will counsel their patients to abstain from promiscuous indulgence in "brandies-and-sodas" of any sort. Even though they be of undoubted genuineness they are none the less undoubted sources of danger to health.

THE INDISCRIMINATE SALE OF REVOLVERS.

WE are glad to see that the Home Secretary has issued a circular to coroners stating that as it is generally admitted that the unrestricted use of revolvers by children and young persons has led to many fatal accidents, and as he has received representations in favour of legislation for the proper regulation of the sale of revolvers and pistols, he asks, in order to judge the extent of the evil, to be supplied with the number of inquests held on victims of the use of such firearms. It is certainly not necessary to habitually carry firearms in England, and we think that the sale of revolvers should be safeguarded by the imposition of stringent restrictions. Why should not each revolver be stamped with the name of the maker and a distinctive number, and the name and address of its purchaser be registered in the books of the seller at the time of sale?

ATTEMPTED OUTRAGE ON PROFESSOR TOMMASI-CRUDELI.

AN Italian correspondent, dating from Rome, 15th inst., writes:—"This evening, as Professor Tommasi-Crudeli was entertaining at dinner Signor Bonghi (some time Minister of Public Instruction in the Minghetti Government) and General Pallavicini (one of the most distinguished officers in the Italian Army), a bomb placed against the wall and under the windows of his house exploded with a tremendous report, shattering the panes and causing much alarm, without, however, the sacrifice of life. Damage, chiefly in glass, to the extent of 1000 francs (£40) is the only outcome of an attempt by which Italy might have lost three of her most deserving and valued citizens. Pending the inquiries immediately set on foot by the Questura, public opinion is at a loss to make out the motive of the nefarious deed. Professor Tommasi-Crudeli, an able and laborious pathologist, whose work in sanitation, particularly in the malarious districts and in the presence of cholera—notably in the last great epidemic at Palermo, is known and appreciated by all his compatriots, could hardly have provoked the enmity of any secret society; whilst Signor Bonghi and General Pallavicini—the former a statesman concerned chiefly in international politics when not engaged in completing his 'Storia di Roma' or his translation of Plato, the latter a scientific soldier whose studies are remote from the controversies of the hour—are scarcely more likely to have incurred the vendetta of the professional dynamitard. Private revenge, indeed, has quite lately sought to gratify itself in this diabolical manner, and the explosions at the Hôtel d'Angleterre and in the Piazza San Claudio are believed to have had some such origin; but why the house and the person of a well-known medical philanthropist should have been made the object of a similar attempt or why the lives of his two guests should at the same time have been jeopardised must, until the police have thrown light upon the subject, remain a mystery. The incident is, unhappily, one amongst many others of the kind that show the existence in society of people who are capable of any enormity to attain their ends, public or private—people whose legitimate wants must be met or grievances redressed by all just and even generous means, but who, by exemplary retribution, must be made to know that they are as little entitled to take the law into their own hands as to give their hatred so fiendish a form."

MUSHROOM POISONING.

ON Thursday, the 2nd inst., the subalterns of the Central Military School at Parma partook at their noonday meal of a plate of meat with a garnishing of mushrooms. The youths—seventeen in number—soon cleared the savoury dish, only to be seized shortly afterwards with the most excruciating abdominal pains. One of them, who had had a second helping, had risen from the table to change some money; but the agony that overtook him in the street was such that he had to be carried into a house and put under instant treatment. Another, who had also occasion to leave the barracks, was similarly brought to a standstill on the pavement and was also placed under medical care. Meanwhile every one of the others was more or less ill—some, indeed, dangerously so. Such casualties are of constant occurrence in Southern Europe, where esculents are utilised as food which even the humblest of our compatriots would not look at. In connexion with this incident we would direct the attention of our readers to Dr. Plowright's very interesting lectures on the subject of Fungi.

THE PHYSICIAN IN PARLIAMENT.

THERE would seem to be no doubt that if Italy emerges clean and clear from the terrible financial imbroglio in which she is at present struggling it will be chiefly due to the sagacity, energy and independence of character displayed by a physician who is also a member of the Camera dei Deputati. Dr. Napoleone Colajanni, the physician referred to, is her 'hero of the day.' It had long been suspected that with the connivance of successive administrations the now suppressed Banca Romana had been allowed a latitude in the emission of notes quite incompatible with healthy banking, and when six weeks ago Dr. Colajanni proposed in Parliament an inquiry into its solvency and general management all felt that his initiative was as salutary as it was bold. But officialism was too much for him. The Prime Minister, seconded, it is fair to say, by his recent predecessors in office, put a peremptory veto on his proposal, and the day of reckoning was, by sheer force of parliamentary strategy, deferred. Only deferred, however. As soon as the Chamber reassembled Dr. Colajanni renewed his insistence; the Government were forced to take active measures; and the result now is that the manager and cashier of the bank are in prison, the bank itself is suppressed, and the first of a series of arrests have been made, to be followed by others, of officials and deputies, suspected, or more than suspected, of complicity in the 'irregularities' of the 'Romana.' Dr. Colajanni, to whom Italy owes this important step towards the restoration of her credit and her financial rehabilitation, is a Sicilian by birth—a native of Castrogiovanni, where he was born in 1847. He comes of a family in which patriotism is hereditary. When a boy of thirteen he tried in vain to get enrolled in Garibaldi's 'Thousand,' but two years later he followed the General to Aspromonte as a soldier in the battalion 'Roma o Morte,' commanded by Garibaldi's son, Menotti. Made prisoner, he was confined in the State fortress of San Stefano, but was soon amnestied. By this time he had thrown himself with energy and enthusiasm into the study of medicine, which, however, he had to leave off in 1866, when he joined Garibaldi's expedition against

Austria in the Tyrol. The object of that campaign having been fulfilled by the cession of Venetia, he again plunged into medical study, again to be compromised as a conspirator and arrested in Naples. Amnestied once more, he resumed his scientific and clinical work till he graduated with distinction as doctor of medicine and embarked for South America. There he began the researches into criminal anthropology with which his name is identified, and on his return to Italy he made social questions so much his *métier* that with a view to prosecute them advantageously he sought, and at length, in 1890, obtained, a seat in Parliament. He sits on the Extreme Left and is an uncompromising reformer of abuses, more particularly of such as bear heavily on the agricultural and artisan poor. Two years ago he was appointed to the chair of Legal Medicine in Palermo, where his influence is felt in the field of criminal anthropology, on which he has written and lectured a great deal. His work has attracted attention far beyond the Italian frontier as at once sounder and deeper than that of Lombroso himself. At present he is the most conspicuous figure in his country's legislature, and has made his mark in quarters hitherto reserved for the professional expert in finance. He is by no means the first medical man to whom united Italy is indebted. It was Dr. Lanza, the 'practitioner of Casella,' who piloted her through an archipelago of political and international difficulties till she became mistress of Rome; it was the electro-physiologist Matteucci who, as Minister of Public Instruction, helped to enhance her medical teaching with Moleschott himself, now one of her senators; it was Baccelli—her leading consultant—who, holding the same portfolio, gave an impetus to archæological excavation which has increased tenfold the attractiveness of the Eternal City; it was Bertani, the Garibaldian surgeon, to whom Italy owes her 'Codice Sanitario,' which has already reduced her sick-rate and her mortality; it is to Tommasi-Crudeli that she is indebted for the reclamation of the marsh lands and malarious districts now in progress and for whatever is most sound in her provisions against cholera visitations. We might extend the list of such medical legislators, but those whom we have adduced will more than suffice, we think, to demonstrate that much as Italy has benefited by her professional statesmen, by her diplomatists and masters of jurisprudence, she has reaped advantages at once signal and unique through yet another element in her Government—namely 'the physician in Parliament.'

ELECTRIC COMMUNICATION WITH LIGHTHOUSES AND LIGHT VESSELS.

THE subject of electrical communication between lighthouses on distant rocks or islets and light vessels with the nearest telegraph office or coastguard station has points of medical interest which will, we trust, have full weight with the Royal Commission of which Lord Mount-Edgcumbe is the chairman. Some years ago allusion was made in THE LANCET to the case of one of the keepers of the Chickens Lighthouse, who was taken dangerously ill while on duty there. Although only distant three quarters of a mile from the Calf of Man, and within a very short sail of Port St. Mary or Port Erin, this lighthouse was then, and in stormy weather frequently is, as cut off from all access by boat or steamer as if it were in mid-ocean. Though the signal of distress was seen and though several attempts were made to reach the lighthouse by the experienced and intrepid boatmen whose duty it is to convey the relief, stores, provisions &c., it was impossible to effect a landing for some days, when the invalid keeper was safely removed to his home at Port St. Mary. The various lighthouses on the Eddystone, Bell, Skerryvore, Bishops, Tuskar, Blackwater, Wolf, Smalls, Longships, Needles, Casquets and Fastnet rocks are at times similarly isolated. Each of them has three men resident at a time; they are generally chosen for their possession *inter alia* of more than average good health; but even the healthiest may be taken ill at inconvenient times. Although the main object of the proposed electrical communication is to obtain immediate tidings of any wreck and prompt assistance, the lives of lighthouse keepers and of the crews of light-vessels are of no less importance, and this means of communicating through the telephone when necessary with a most useful and deserving class of men, and affording them such medical advice as may be useful on an emergency, will, we hope, be alluded to in the next report of the Commissioners.

BABY FARMING AND DEATH CERTIFICATES.

WE owe it, doubtless, to the vigilance of the police authorities and to the energy of the Society for the Prevention of Cruelty to Children that cases of baby farming no longer have the same comparative security from detection as they formerly had. Every reported instance of the kind, therefore, however pitiable and disappointing in itself, implies also an element of encouragement, inasmuch as it affords a guarantee for the exposure and exemplary punishment of the offender. A case lately investigated in a coroner's court is well worthy of notice, for several reasons. It was that of an infant nine weeks old which died in a wretchedly emaciated condition of no evident illness, but merely as a consequence of starvation. The medical practitioner called in to see the child, judging truly of its condition, refused to certify the death. The real cause of it was revealed by a subsequent necropsy, and this course of action led up to a merited verdict of manslaughter against the nurse in charge. All concerned in this prosecution are to be congratulated upon the energy and the success of their efforts, and we would here take occasion once more to caution all medical practitioners against the possibility that such cases, unless particular care be exercised, may readily be certified as due to some other but still secondary morbid cause. Complaints have repeatedly, and in some instances justly, been brought against members of the profession on this ground, and we would therefore the more earnestly urge the importance of exercising even more than ordinary care in this matter.

THE ETIOLOGY OF WHOOPING-COUGH.

WHOOPING-COUGH at one time was regarded as a simple catarrh of the air passages, but for many years it has held a place amongst the infectious diseases. Letzerich in 1870 was the first to find and describe an organism in connexion with this disease, and he maintained that there was a direct causal relationship between the two. Since then several observers have claimed to have discovered the pathogenic microbe of pertussis, but further investigations have shown that these were either the non-pathogenic bacteria constantly to be found in the mouth and upper air passages or mere concomitants of bronchial catarrh. Dr. Ritter[1] is one of the latest observers to make a research on this subject. He directed the attention of the Medical Society of Berlin to the fact that there were many difficulties to be met with in studying the bacteriology of whooping-cough. In the first place, the patients were nearly all young children, so that it was extremely difficult to obtain any expectoration in which the organisms, if such were present, were most likely to be found; secondly, a large number of bacteria were always present in the buccal respiratory tract, so that it was very uncertain whether the organisms isolated were really the causal agents of the disease; and, thirdly, a further complication arose from the frequency with which vomiting occurred at the height of the disease. Dr. Ritter attempted to obtain

[1] Wiener Medicinische Wochenschrift, No. 1, 1893.

material from the mucous lining of the larynx. He was successful in doing this in nineteen out of thirty-one children. But this method did not yield satisfactory results, as the larynx appeared generally to be perfectly healthy; occasionally there appeared to be a slight inflammatory condition. When expectoration could be obtained at the termination of a paroxysm of coughing it was received into a sterilised vessel and carefully washed with distilled water. Small opaque particles were generally found and these were removed with due precautions and cultivated on agar-agar. Small colonies appeared within twenty-four hours. Under the microscope these were found to consist of diplococci. The colonies were opalescent and greyish in colour and adhered firmly to the surface of the cultivating medium. Dr. Ritter had not completed his experiments on animals, but had already obtained positive results. He considered that the diplococci were not the same as those described by Fränkel in pneumonia and other conditions.

REARRANGEMENT OF SALARIES AT ABERDEEN UNIVERSITY.

THE University Court have had under consideration the rearrangement of professors' salaries as proposed by the Universities Commission. It is proposed by the Commissioners that the normal salaries of the medical professors be: Anatomy, chemistry, physiology and pathology, £900 each; natural philosophy, £800; natural history and botany, £700; medicine, surgery, medical jurisprudence, midwifery and materia medica, £500 each. The professors of the five last mentioned subjects are to be allowed to practise; the others must devote themselves entirely to the duties of their chairs. The average amounts of fees and emoluments of the chairs for the last five years are as follows: Natural philosophy, £683; chemistry, £868; anatomy, £1636; physiology, £654; pathology, £655; natural history, £1038; botany, £725; medicine, £376; surgery, £663; medical jurisprudence, £478; materia medica, £509; midwifery, £369. The Court recommended that the salary of the professor of natural philosophy be raised to £900; that of the anatomy professor to £1050 or £1100, and that of the professor of natural history to £900. It was also resolved to recommend that the normal salaries attached to the chairs of medicine, surgery and midwifery be £600, the same figure as the salaries of the corresponding chairs in Edinburgh and Glasgow.

WORKS BY PROFESSOR PUSCHMANN.

PROFESSOR THEODOR PUSCHMANN of Vienna (the English edition of whose History of Medical Education, translated by Mr. E. H. Hare, F.R.C.S., we reviewed in THE LANCET of March 5th, 1892) has published a bibliography of works bearing upon the History of Medicine and Diseases. It extends over some thirty-eight large pages with double columns and is divided into twelve headings: (1) Encyclopædias and Dictionaries of Medicine; (2) Histories of Medicine—universal, and in particular countries; (3) Histories of Medical Teaching in Universities, Schools and Hospitals; (4) Medicine in Ancient Times; (5) The Medicine of the Middle Ages; (6) Medicine in Modern Times; (7) The Histories of the Allied Sciences; (8) and (9) Histories of the Special Departments of Medicine; (10) Biographies; (11) Mystical and Popular Medicine; (12) Various works containing matters of medical interest. Historical and critical notes are appended to the most important of the works mentioned, characterised by the well-known insight and learning of the editor of Alexander of Tralles. Full justice is done to the discoveries and works of Englishmen, from the ancient Sanscrit MS. found by Lieutenant Bower in Eastern Turkestan down to such a recent book as the "History of Epidemics" by Dr. Creighton. To the student of the history of medicine this *catalogue raisonné* cannot but prove of immense value. In 1891 there appeared from the pen of the same author a "Research into the Antiquity and Causes of the Practice of Circumcision." This has been translated from the German by Mavroyeni Pasha into French and Turkish, and has been issued from the Mahmoud Bey Press at Constantinople, the French and Turkish versions being in one cover. The French is an accurate rendering of the original, but rather disfigured by typographical errors. The author considers that ancient Egypt was the seat of the origin of circumcision. He reviews the manner of performing the operation and the age at which it was performed amongst the various races of the world which have adopted it and proceeds to investigate the causes which have prompted so considerable a section of mankind to submit to it. He comes to the conclusion that the causes have been manifold and different amongst different nations—in some the hope of increased fertility, in some the desire to offer a sacrifice to the Divine Power; again, a sort of pride of race and an opportunity of displaying courage in bearing pain have acted as inducements. He is of opinion that the idea of prophylaxis against disease is of quite recent growth. The mutilation of the incisor teeth in certain African races, the excision of a portion of skin from the dorsum of the penis and from the mons Martis in others, and the alleged semi-castration of the Hottentots are adduced as instances of rites in some degree analogous. In the present year Professor Puschmann has issued a pamphlet containing an epitome of the history of inoculation and vaccination for small-pox. He begins by deploring the ignorance which prevents people from taking an unprejudiced view of this important matter. Proceeding, he recalls the introduction into Europe from the East of the knowledge of inoculation by the writings of Timoni and Pylarini, and of its practice in England by the advocacy of Lady Mary Wortley Montagu; how it spread on the Continent, the Czarina Catherine having sent for an English physician (Dimsdale) to inoculate herself and her children, while Ingenhousz was called to Vienna from the Netherlands on a similar mission. Then Edward Jenner's discovery, his consultation with John Hunter, and the first vaccination performed by the former in 1796 are detailed. Valuable statistics are given showing the protection afforded by vaccination and revaccination. The old Arabian theory that small-pox is a "cleansing process" is mentioned because it was revived by a prominent member of the French Academy of Medicine in 1849, and was used as an argument against vaccination. So, too, Professor Puschmann characterises the idea that although vaccination saves from death by small-pox, yet as many die from other diseases as would have died from small-pox had they not been vaccinated, as an "Ausdruck einer fatalistischen Lebensauffassung" (the expression of a fatalistic conception of life), which would render all progress in medicine impossible. This little work is full of interest at the present time in view of the report of the Commission on Vaccination and the approaching centenary of its discovery.

THE DRINK BILL OF 1892.

WHETHER the trade of the country is good or bad the nation contrives to spend on alcohol, in the shape of beer, wine and spirits, the appalling sum of over £140,000,000 per annum. Dr. Dawson Burns points out that we spend on railway travelling only four-sevenths of this sum, and that the whole value of our coal and metal output at the place of production is £45,000,000 less than we spend on drink. According to the late Professor Leone Levi, as quoted by Dr. Dawson Burns, more than half of the £140,000,000 is spent by the working classes. Though, as medical men know, there is amongst the wealthier classes much reprehensible excess in the use of alcohol, it is the working class which spends the largest proportion of its income on alcohol. Doubtless there is some fascination

in the temporary effect of alcohol on the poor which makes them for the time being less conscious of their poverty; but such advantage is dearly bought, and of short duration. The unhappy victim comes out of it quickly only to find himself more wretched than before and his means of real comfort greatly reduced. It is so far satisfactory that the expenditure last year was £354,413 less than in the previous year; but the sum total of any year is out of all proportion to what can be taken without causing much disease and premature death. We cannot go so far as to seek to prohibit all use of this potent agent; but we agree with Mr. Bright and Lord Derby that the reduction of the amount consumed by one-half would do more than any other thing to add to the happiness of life in this land. We agree most heartily with Dr. Dawson Burns in one remark, that this question is one for both parties—for all parties—in the State to lay to heart. It is above all the petty ends of faction. It is a question of patriotism and of philanthropy that should be taken in hand earnestly by a committee of both great parties in the State. The State cannot make men sober, but it has done much to facilitate their drinking and little to promote sobriety.

THE FORTHCOMING INTERNATIONAL SANITARY CONFERENCE.

THE International Sanitary Conference, relative to the conditions and regulations which should be imposed upon vessels passing through the Suez Canal, which met at Rome in the early part of last year and later continued its deliberations in Paris, without, however, being able to come to a completely amicable settlement, will re-assemble at Dresden in the first or second week of March. There is no doubt that the representation of British interests, so far as the medical element is concerned, will devolve, as at the Paris meeting, on Dr. Thorne Thorne, C.B., the Medical Officer to the Local Government Board. At the time of writing it is doubtful who will be the representative of the Foreign Office at the ensuing Conference. Dr. Koch will look after German interests and it may be assumed that Dr. Proust will again propound French views.

PACHYMENINGITIS HÆMORRHAGICA INTERNA.

DR. WIGGLESWORTH has contributed a short paper to *Brain*, his object being "to offer a few remarks in favour of the hæmorrhagic origin of this affection in opposition to the view which ascribes the phenomena met with to an inflammatory process." As is well known, this was the theory which was advocated until Professor Virchow gave the force of his authority to the inflammatory doctrine, and to the influence of his writings is no doubt due the until recently almost universal acceptance of this view. Briefly stated, it assumes that the primary change is an inflammatory exudation on the inner surface of the dura mater, the hæmorrhagic element being secondary and the result of the rupture of newly formed vessels in the inflammatory membrane. Dr. Wigglesworth takes an entirely different view—viz., that the "membranes" are all the direct result of hæmorrhagic effusions into the subdural space, and that any inflammatory changes met with are purely secondary and the result of irritation set up by the effused blood. In support of this view the occasional occurrence of blood in the subdural space without the presence of any trace of membrane is mentioned, and to meet the possible objection that such cases should not be included in the same category it is urged that they occur under exactly similar conditions. The absence, too, of any change in the dura mater, at least in recent cases, and the very slight changes in it in older cases—such slight bands of adhesion, for example, as might be found between any membrane and an organising clot in its vicinity—are other points brought forward in favour of the hæmorrhagic theory, while the structure of the membrane itself—a meshwork of fibrin with blood-corpuscles—is urged as further evidence in support of this view. The average age at which this condition is found is over fifty years, so that it corresponds to an age at which vascular degeneration is common. In the cases in which it is found at an earlier age the patients are nearly always the subjects of general paralysis, a disease in which changes in the vessels of the pia mater and cortex are common, if not constant. Dr. Wigglesworth goes on to point out the conditions in which this morbid affection is met with—viz., nearly always amongst the insane or in the subjects of chronic alcoholism, who may almost be regarded as amongst the insane. It is rare in recent acute cases of insanity, so that in the large proportion of cases it is associated with brain degeneration and atrophy, and the loss of support experienced by the meningeal vessels in the degenerating and wasting brain is no doubt the chief factor in its production. Whether this, so to speak, complementary or compensatory character of the hæmorrhage accounts for the frequent absence of symptoms, as Dr. Wigglesworth thinks, we are not quite prepared to say; but it is significant that the production of symptoms from this condition is rare, and that in many of the cases in which symptoms of irritation have been present the hæmorrhage has been a large one, in some so large as to prove rapidly fatal. The lamination present in this condition he considers to be the result in some cases of successive hæmorrhages, although he produces evidence to show that a hæmorrhagic effusion in becoming organised has a natural tendency to split into layers. There is no doubt that the view which Dr. Wigglesworth supports is materially strengthened by his advocacy, and it seems to us that the burden of proof now lies on the upholders of the opposite view.

ACUTE ALCOHOLIC POISONING.

ACUTE alcoholic poisoning appears to have been rather prevalent of late in Lancashire; one case we recorded in THE LANCET of Jan. 14th, p. 98, as occurring in a young man at Golborne. Two cases are said to have occurred at St. Helens recently. One was that of a youth fifteen years of age who was sent by his employers with some spirits in a stone jar to a customer. He drew the cork and is supposed to have drunk about ten ounces; he became comatose and died next morning. Last week a painful case, which was also fatal, occurred at Wigan. A young, healthy man, labouring in a railway goods yard, drank from a can a quantity (said to be from ten to fifteen ounces) of whisky, which had been extracted from puncheons that were being returned as empties. In a very short time afterwards he was found lying on the floor, and was left there to sleep the effects of the alcohol off till 7 P.M., when Mr. Berry was called, who found him insensible and almost in a dying condition. All efforts to restore him to consciousness failed, and he died early next morning. Mr. Rowbottom, the coroner, recognising the importance of the case, ordered a post-mortem examination, which proved conclusively that death occurred from alcoholic poisoning.

THE DETECTION OF FIRE-DAMP.

AT a meeting of the Society of Arts on the 18th inst. Professor Clowes, D.Sc., of University College, Nottingham, read an interesting paper on the detection and estimation of small proportions of inflammable gas or vapour in the air. Professor Clowes' invention by which this is effected was described in THE LANCET of May 7th, 1892, in connexion with the exhibits shown at the annual conversazione of the Royal Society that year. Briefly, as was then explained, it consists of an ordinary miner's safety lamp provided with a supplemental hydrogen flame. An ordinary oil or benzoline safety lamp is fed with hydrogen by a tube passing through the reservoir, which may be connected by a flexible tube with a light steel

bottle containing compressed hydrogen. The hydrogen, when turned on, becomes kindled by the lamp flame, which is then extinguished by drawing down the wick. The hydrogen flame is next adjusted to a standard height and the amount of inflammable gas or vapour is estimated by the dimensions and appearance of the luminous "cap" which is seen over the flame. Percentages of fire-damp varying from 0·25 to 3 could thus be detected and estimated, while the luminous flame of the lamp alone, when sufficiently reduced, serves to detect percentages above 3. The action of the lamp may be thus explained. The hydrogen flame being practically non-luminous shows with greater delicacy the impingement upon it of inflammable gas, which imparts to it a more or less degree of luminosity. So long as the mining of coal lasts, so will those engaged in the operations involved be exposed to the terrible risk of explosion; and the adoption of precautionary measures such as Professor Clowes' simple and compact invention would ensure is imperative, if the awful disasters, which unhappily do not appear to be on the decline, are to be averted.

THE COST OF MAINTENANCE OF PATIENTS IN SMALL-POX HOSPITALS.

WELL-TO-DO people suffering from infectious diseases do not seem so fortunate in the provinces as they are in London. If removed to an isolation hospital, for example, and they cannot show that they are without proper lodging and accommodation and that they are unwilling to be sent to the hospital, they can be sued by the sanitary authorities to recover expenses of maintenance. Such an action has just been tried at Blackburn before his honour Judge Coventry of the county court, the guardians of the sanitary rural authority being the plaintiffs in the case. The plaintiffs failed because the defendant showed that he was not without proper lodging and accommodation. He also satisfied the magistrate that he was not a consenting party to the removal and that this was carried out in pursuance of the wishes of the borough medical officer of health whilst he (the defendant) was suffering from small-pox and therefore presumably unable to protest against removal.

THE ACTION OF COLD AND WARMTH ON MUSCULAR FATIGUE.

FOLLOWING up Professor Mosso's researches on the "pathology of fatigue," Dr. Patrizi contributes to the journal of the Royal Academy of Medicine of Turin the results of a series of experiments by way of determining the action exerted by cold and warmth on the fatigue of the human muscle. The experiments were made by means of the "ergograph" (Professor Mosso's instrument), and consisted in the execution of a given piece of work—the lifting of a weight by the middle finger of the right hand, either by successive voluntary contractions or by contractions induced by electric irritation. The experiments, moreover, were conducted always at the same hours of the day, and comparison was made of the several tracings which were obtained while the forearm was kept in a bath of hot or of cold water. The range of temperature within which the muscles act in executing a piece of work presents no appreciable alteration and is very wide—from 46° to 15° C. This fact Dr. Patrizi recognises as "providential," seeing the different temperatures at which the muscles of the arm have to undergo fatigue in the ordinary conditions of life. The net result of the experiments goes to prove that with cold the work of the muscle rapidly diminishes—so much so as to become one-fourth of the normal at 15° C. and fifteen times less than the normal at 10° C. On the other hand, above 46° C.—that is, between 46° and 47° C., the maximum limit of supportable heat—work undergoes a slight but constant diminution in all individuals. To explain this fact, confirmed as it is by other observations—a fact, moreover, not to be attributed to the dilatation of the vessels effected by heat and to consequent circulatory disturbance, because otherwise it would be manifested even at temperatures below 46° C.—Dr. Patrizi contends that the blood in the heated muscle is no longer capable of histological exchange and that the toxic products of fatigue act more energetically on the muscle at high temperatures.

THE JUDGES AND VACCINATION.

IT is said by a contemporary that one of the judges has been prevented from attending the High Court of Justice by having been revaccinated prior to going on a circuit where the dreaded disease is rife and that one of the ushers has had a similar experience. We are glad that the judges are showing so much good sense and setting so excellent an example. Successful revaccination is apt to disable a person for work for a day or two, but this is a slight disadvantage when compared with the weeks of disablement caused by even a light attack of small-pox.

RECEPTION OF PROFESSOR VIRCHOW.

WE are informed that it is intended to entertain Professor Virchow at a complimentary dinner on the evening of Thursday, March 16th, the occasion of his delivery of the Croonian lecture at the Royal Society. The invitation, in which the Presidents of the Royal Society and of the Royal Colleges of Physicians and Surgeons have joined, has been accepted by Professor Virchow. We are asked to announce that a preliminary meeting in reference to the preparations for the occasion is to be held at the residence of Mr. Hutchinson, 15, Cavendish-square, this (Saturday) afternoon at 5 P.M. Mr. Hutchinson will be glad to receive communications from those desirous of taking part in the welcome to be accorded to the foremost representative of pathological science.

MICRO-ORGANISMS IN BERI-BERI.

VARIOUS observers have described micro-organisms in beri-beri, but they have hitherto failed to prove that any of them are pathogenic. Drs. Musso and Morelli have made some careful investigations in regard to this disease which are worthy of note.[1] They examined the blood of eleven patients suffering from beri-beri, with uniform results. When rabbits and guinea-pigs were inoculated with the cultures the following symptoms were produced: The animal appeared drowsy and there was paresis of the posterior extremities; the abdomen was somewhat distended. Death occurred at periods varying between forty days and four months, differences depending probably upon variations in the doses and the virulence of the cultures. After death three prominent conditions were found—ascites, hydro-pericardium and nephritis. The liquid found in the abdomen and pericardium was strongly albuminous and contained salts—corresponding, therefore, in general characteristics with the fluids found in the bodies of human beings suffering from the disease.

PREVALENCE OF ZYMOTIC DISEASES.

MORE than 1200 cases of scarlet fever were notified in the large towns of the kingdom during the week ended Feb. 11th, London contributing rather more than a third of them. The chief other contributory places were Sheffield, Bradford, Liverpool, Manchester, Salford, Swansea, West Ham and Birmingham. During the same period some 300 cases of diphtheria were notified, London furnishing more than half. Manchester, Cardiff and Birmingham furnished more than any other place, except the metropolis. Liverpool had most cases of enteric fever next to the capital. In London it is pleasing to learn that fewer cases of scarlet fever were under

[1] Gazette Médicale de Paris, Jan. 21st, 1893.

treatment in the hospitals. The weekly deaths from diphtheria rose, however, to 62, the highest weekly number on record. The endemic prevalence of diphtheria in the metropolis is one that is deserving of the fullest inquiry. Details are to hand concerning the prevalence in different parts of the country of these and other infectious maladies. Thus malignant scarlet fever is reported at Northampton, diphtheria and measles at Dundee, the latter disease being exceptionally fatal; a localised outbreak of typhus fever at the same place, and an extensive, though mild, epidemic of measles at Brechin. It is disquieting, too, to learn that the mortality from influenza is steadily increasing. Nineteen deaths from this disease occurred in London during the week ended Feb. 11th, compared with an average of 15 during the previous three weeks It is reported to be prevalent at Chatham, Rochester and New Brompton, in which places the public schools are closed. Amongst northern towns, Leeds is suffering a good deal from influenza, 9 deaths having taken place during the last six weeks, compared with 6 in the whole of the last quarter of 1892. This increase is said to be partly explainable by the fact that deaths formerly attributed to lung diseases only are now ascribed primarily to influenza.

THE MEDICAL AID ASSOCIATION QUESTION.

IT will be seen from our Parliamentary report that Mr. Labouchere has put a question in the House of Commons to Mr. Acland, the Vice-President of the Council, as to the legality of the power of the General Medical Council to declare those practitioners who hold office under a Friendly Societies' Medical Aid Association guilty of infamous conduct in a professional respect; and whether, if the Medical Council did make this declaration, he would take steps to amend the law. The Vice-President's answer to this at least premature question was easy and obvious, and will be found in our Parliamentary report. Surely Mr. Labouchere might wait till the committee appointed by the Council has completed its work and given in its report. The function of the Council is judicial, and until it departs from a judicial attitude it is not fair to threaten it as Mr. Labouchere's question does. For our own part, feeling that this matter was under searching and fair investigation by a committee of the Medical Council, we have suspended all further comment on it and on their action. It is no secret that the Council intend to give the most complete hearing to both sides in this controversy, and that both sides are helping the Council to such an impartial hearing.

THE BERTILLON SYSTEM OF ANTHROPOMETRY.

WE learn from the *Pioneer Mail* that this system has been successfully introduced into several provinces of India. The Inspector-General of Police in Bengal takes a keen interest in the subject and the system promises to work well. It is also stated that some difficulties attending the methods of application of measurements have been overcome by a simple device. When calipers are the instruments used, for example, for measuring, some varieties in the result may, and in practice frequently do, arise from the difference of pressure applied by different individuals in taking the measurements, whereas the instrument is now supplied with a spring which causes it to close with absolutely uniform pressure. Suggestions have been made from time to time in the past as to the adoption of some method for the identification of a class of men who repeatedly and fraudulently enlist into and desert from the army, or who have been discharged from the service as bad characters, but no method of a sufficiently simple and practicable kind has been hitherto devised for the purpose, and the Bertillon system of anthropometry, however exact and useful it may be in the case of gaols and criminals, is too complicated and needs too much time and care to be generally applicable, even were it otherwise expedient to adopt it. The army as an occupation is, we imagine, increasing in popularity, on the whole, and if a judicious selection be made from the recommendations contained in the report of Lord Wantage's Committee there is no reason why it should not advance in this respect. An immense deal has been done during the last twenty or thirty years to improve the soldier's position, and after all the radical remedy against desertion is to introduce such reasonable changes and reforms from time to time as to make the soldier content with his position and occupation.

NEW BRINE BATHS AT STAFFORD.

THE Corporation of Stafford have just completed a suite of brine baths, similar to those at Droitwich and Nantwich. The waters contain 18.393 grains of common salt to the gallon, besides considerable quantities of chloride of magnesium and the sulphates of magnesium, potassium and calcium. The temperature is 60° Fahr. In addition to the brine baths the suite includes Turkish, needle, slipper and fresh and salt water swimming baths.

RUPTURE OF INTESTINE CAUSED BY A TAPEWORM.

IN a recent number of the *New York Medical Journal*, Dr. Fayette Dunlap describes a case of resection of the small intestine for rupture caused by a tapeworm. When he saw the patient he believed that there was an ectopic gestation with ruptured sac. On the abdomen being opened the pelvis was seen to be filled with recent blood-clot, and a tapeworm was found protruding from a large ragged rupture in the small intestine. About two-thirds of the lumen of the intestine was gone, the edges were ragged and gangrenous, but it was quite evident that there had been no previous ulceration. The damaged part was resected and the ends united by the continuous suture after the manner of Lembert. Vomiting was continuous for thirty hours after the operation and only ceased after a large enema of an ounce each of glycerine and sulphate of magnesium and a quart of *hot* water. From the abdomen there was removed about eight feet of live tapeworm, and with the enema there came away seventeen feet more. Dr. Dunlap thinks the worm had become entangled, and in the effort to free itself so eroded the wall as to cause rupture. No antiseptics were used. The patient made a good recovery.

SUDDEN DEATH IN PLEURISY.

IT is known that patients suffering from pleurisy with effusion occasionally die suddenly and unexpectedly, and this result has been ascribed to the existence of a very large amount of fluid in the chest. That the accident referred to may happen when the amount of fluid is very moderate appears from a case reported by M. Lesueur in *L'Année Médicale de Caen*, in which a young woman who had a good constitution and had always enjoyed good health was attacked with pleurisy of the left side. On the eighth day the fluid occupied two-thirds of the pleural cavity. After this it began to diminish and on the twelfth day respiration sounds could be heard all over the affected side and the patient, feeling better, wanted to leave her bed, but was advised not to do so. She still complained of a constant pain on the left side which had existed from the beginning. The same day—being left alone for a time—she got up for a short period, but as soon as she returned to bed she was seized with severe pains and a feeling of suffocation, so that she called for assistance. Her lips were then found to be blue and her pulse thready, she became less and less able to speak and died in less than

four hours. As no disease of the heart or lungs could be detected, M. Lesueur suggests that the explanation is to be found in arrest of the heart by means of reflex irritation caused by intercostal neuritis acting upon the inhibitory cardiac apparatus, an explanation similar to that suggested in a recent discussion on the subject of sudden death in pleurisy at the French Academy of Medicine. Death may, however, have resulted from an asthenic syncope due to the disturbance of the circulation from premature resumption of the erect position.

LAPAROTOMY IN TUBERCULOUS PERITONITIS.

M. PONCET recently brought before the Lyons Medical Society an interesting case of a little boy nine years of age who was completely cured of chronic tuberculous peritonitis by operative measures. The condition of the child at the time of the operation appeared desperate. He could with difficulty be got to answer questions, his respirations were short and laboured, and his abdomen was enlarged, tender on pressure and evidently contained fluid. Laparotomy was performed, and about a pint and a half of fluid was obtained, which contained tubercle bacilli; the parietal peritoneum, as well as the intestines and the mesentery, were full of granules varying in size from that of a lentil to that of a pin's head. The intestines were dusted over with 50 or 60 grains of iodoform and the wound closed. In a month's time the child was able to get up and in two months he was out in the fields looking after the cattle. At the time of the report, five months after the operation, the child was quite well; there was no trace of ascites, but on each side of the umbilicus systematic pressure produced a certain amount of resistance, as if the intestinal coils, having been matted together, had lost some of their suppleness and elasticity.

DIPHTHERIA AND MEMBRANOUS LARYNGITIS.

AN interesting series of experiments has been carried out by Dr. Booker[1] on membranous laryngitis occurring in the course of scarlet fever and other fevers. He concludes that the membranous affections of the throat that sometimes occur in the course of scarlet fever, measles and other infectious diseases often closely resemble clinically the features of diphtheria, but that they differ in nature and etiology. With the exception of the false membrane, the changes found in diphtheria are dependent not upon the direct action of the bacilli but upon the alkaloids and other toxic substances to which they give rise. The anatomical changes that attend the formation of membrane in scarlet fever and measles are characterised by the presence of streptococci, producing suppurative processes. A bacteriological examination, therefore, furnishes a certain criterion for the differentiation of diphtheritic and pseudo-diphtheritic processes. Measles and scarlet fever render the tissues a favourable pabulum for the bacillus of diphtheria. The presence of streptococci in membranous laryngitis suggests an etiological connexion, but the organisms are probably not pathogenic of the particular diseases in the course of which they occur.

LOCALISED TRANSIENT ŒDEMA.

UNDER this name Dr. Allen Starr describes in the *New York Medical Journal* three curious cases which have come under his observation. A short abstract of the paper appears in the *Neurologisches Centralblatt*. The œdema was acute in its onset and transitory. The first patient was a woman of twenty-eight, who, as soon as she exposed her face to cold, suffered from a swelling on the right side of it, which came on with a feeling of stiffness and lasted for several days. The swollen side then became colder and paler than the other. If massage was employed the swelling disappeared in a few hours. The second patient was a woman of forty-seven, who had swelling of any part of her body exposed to cold. The hands were most frequently affected, and now and then the whole body, although there was no disease of the heart or kidneys. Treatment with drugs—such as nitro-glycerine, ergotin &c.—was ineffectual. The third patient was a woman aged fifty-four with œdema of the left hand, which was reddish-blue in colour, stiff and painful. The condition is an interesting and unusual one and seems to be the expression of some vaso-motor disturbance, but there is nothing in the nature of the cases so far to show whether this is the result of some morbid change or of some structural peculiarity.

[1] Bulletin of the Johns Hopkins Hospital, iii., 26, p. 109.

FOREIGN UNIVERSITY INTELLIGENCE.

Barcelona.—Dr. Luis Guedea y Calvo of Cadiz has been appointed to the chair of Surgical Pathology.

Bucharest.—Dr. Petrini has been appointed Professor of Clinical Dermatology and Syphilis.

Geneva.—Dr. F. Buscarlet has been recognised as *privat-docent* in Surgery.

Madrid.—A beautiful and ingenious operating theatre which has been designed by the Marqués de Busto, an eminent surgeon, has just been opened. In this building the most elaborate arrangements are made for keeping septic matter from gaining entrance into the chamber where the operations are performed. There is an antechamber or laboratory containing heating apparatus by means of which clothes, dressings &c. may be sterilised. The operating chamber is completely shut off from the theatre provided for the students by means of glass which is prevented from becoming clouded by ingenious contrivances on both sides. There is also another ingenious device resembling the concha and auditory meatus of an ear, by means of which the students in the theatre are enabled to hear any remarks made by the operator. The building is styled by its designer "The Chirophan (in Spanish *El Quirófano*)—that is to say, "The Transparent Surgery."

Marseilles.—Dr. Magon has been appointed to the chair of Anatomy.

Munich.—Dr. R. Cramer has been recognised as *privat-docent* in Bacteriology.

Naples.—Dr. Alfredo Rubino has been recognised as *privat-docent* in Medical Pathology.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Mammert Karpovich, who has for many years been well known in St. Petersburg through his anatomical and pathological models.—Dr. Wilhelm Valentiner, formerly *privat-docent* in Balneology in Berlin.—Dr. Nikolai Menthien, Extraordinary Professor of Pharmacy in Warsaw and author of a text-book on the subject.—Dr. Peter Uspenski, *privat-docent* in Nervous Diseases in the Military Medical Academy, St. Petersburg.—Dr. Ad. Hartung, who had several times been President of the German Dental Association, and was for many years a member of the Dental Examination Commission.

WE gather from the *Western News* that at a meeting of the Plympton Board of Guardians a charge of neglect was brought against Mr. Doudney, one of their medical officers. Mr. Doudney, in his defence, completely exonerated himself, and was ably supported by the Rev. G. B. Berry and a majority of the Board. It transpired during the inquiry that orders signed in advance by the overseer were given to the assistant overseer, a publican, to make use of, and the guardians considered that Mr. Doudney was right in not acting upon such orders emanating from the assistant overseer.

THE Prince of Wales testified his interest in scientific matters by attending the Royal Institution to hear Professor Dewar re-deliver his lecture on Liquid Air. There was a distinguished audience, and at the close of the meeting the Prince publicly thanked Professor Dewar for the lecture which had afforded them such a treat. He referred also to the generosity of the Goldsmiths' Company in contributing £1000 towards the expenses of the experiments.

THE enlargement of the Hospital for Sick Children, Great Ormond-street, has necessitated an increase of the surgical staff. The senior assistant surgeon, Mr. Bernard Pitts, has been promoted to the full staff, and the vacancy thereby created has been filled by the appointment of Mr. C. E. Leopold B. Hudson, surgical registrar to the Middlesex Hospital.

A CABLEGRAM from the Government of India states that a considerable consignment of unbound copies of the Report of the Leprosy Commissioners will arrive in London towards the end of March. It is expected that these copies, together with the Memorandum by the members of the Executive and Special Committees of the National Leprosy Fund, will be bound and ready for issue early in May.

AT the Quarterly Court of Governors of the Victoria Hospital, held in the Board-room on Feb. 15th, Viscount Chelsea, M.P., Hon. Edwin Portman, and Dr. F. Dawtrey Drewitt were unanimously elected as members of the Committee of Management; and Dr. Bristowe was elected consulting physician, vice the late Dr. Walshe.

THE Vaccination Commission resumed its sittings on Wednesday last in Great George-street, Sir James Paget being in the chair. Dr. J. McVail was examined for the tenth time, his evidence being regarded by the commissioners as of extreme value.

IN recognition of the value of his services in the interests of the public health, Sir Walter Foster has been awarded by a unanimous vote the honorary membership of the Society of Medical Officers of Health for Scotland.

MR. ANTONY ROCHE, M.R.C.P.I., L.R.C.S.I., L.M., has been appointed Examiner in Medical Jurisprudence and Hygiene in the Royal University of Ireland.

THE annual meeting of the Medical Defence Union took place on Wednesday last. We hope to refer to the proceedings in a future issue.

SIR EDWIN SAUNDERS has resigned the office of treasurer and also that of trustee to the Dental Hospital of London.

A NOTE ON

THE PREPARATION AND EMPLOYMENT OF PHYSIOLOGICAL STYPTICS.

BY A. E. WRIGHT, M.D. DUB.,
PROFESSOR OF PATHOLOGY, ARMY MEDICAL SCHOOL, NETLEY.

SOMEWHAT more than a year ago I suggested[1] that the knowledge of the processes of coagulation, which had been acquired by research, might probably be turned to account in providing the surgeon with a physiological styptic. I pointed out that such a physiological styptic would be absolutely painless in application, since it would exert an elective influence on the blood and would be inert with respect to every other tissue. It would thus differ altogether from our ordinary styptics, which owe their hæmostatic power solely to the formation of an eschar by the destruction of surrounding tissues. Escharotic styptics would appear to be anachronisms in a civilised system of therapeutics. In the communication referred to above I suggested for employment a styptic consisting of a "solution of fibrin-ferment," which had received an addition of calcium chloride. I do not propose to add anything here to what I have already said with regard to this styptic, for I find that a styptic of much greater coagulative power can be prepared as follows:—

Preparation of the proposed styptic.—Take the thymus gland (chest sweetbread) of a calf, reduce it to a fine pulp by passing it through a sausage machine, and extract with three to four litres of a 1 to 2 per 1000 solution of carbonate of soda which has received an addition of five grammes of chloroform per litre. Stir thoroughly at intervals and continue the extraction for twenty-four to thirty-six hours. At the expiration of that period it will be found that almost the entire substance of the gland has dissolved in the dilute alkaline fluid. Strain through fine calico and add 1 per cent. of calcium chloride;[2] preserve in stoppered bottles. This styptic will keep for an indefinite time if the chloroform is prevented from evaporating. With a styptic prepared as above I have been able to arrest the hæmorrhage after cutting across both a femoral and a carotid artery in a dog. The action of the styptic was assisted by compressing the arteries for one or two minutes.

Therapeutic employment of the above styptic.—The styptic may be applied on a tampon to any bleeding surface where strict asepsis can be dispensed with. If it is necessary to render the styptic perfectly aseptic, this can be done by boiling after making a sufficient addition of alkali to keep the albuminous substances in solution. Boiling involves a great, but not a complete, loss of coagulating power.

In conclusion, I need not do more than merely advert to the fact that the proposed styptic consists of a solution of Wooldridge's "tissue" or "cell-fibrinogen" with an appropriate addition of lime. If this styptic is found to be of practical utility it is to be remembered that this is entirely due to the researches of Wooldridge in this country and Arthus and Pagès in France. The cost of production of the styptic may be put down at something less than 1s. a litre.

Oakhurst, Netley.

[1] Brit. Med. Jour., Dec. 19th, 1891.

[2] In order to obviate the considerable precipitate of calcium carbonate which is obtained on this addition, it is well to acidify the thymus extract with dilute hydrochloric acid before adding the lime salt. The slight alkaline reaction is to be subsequently restored by an addition of weak caustic soda.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THERE is happily little or nothing to chronicle this week relative to the continued progress of the epidemic. Cholera may be said to have died down for the present or to be hibernating, and we must be content to await, though not without some misgiving and anxiety, the eventualities of the ensuing spring and summer.

We learn from Russia that, whilst the Crimea and the northern shores of the Black Sea are entirely free from cholera, the disease is slowly but surely gaining strength in the province of Ekaterinoslav, to the north of the Crimea, and that in some other provinces—notably the neighbourhood of Golodaevka—it is still very prevalent.

It is fully anticipated that the Dresden Sanitary Conference will meet on March 6th. All the Powers will be represented. Austria and Hungary will appoint two delegates and four experts. In addition to the official representative, sanitary experts from each country will, it is expected, be present to assist in the inquiry. During a consideration of the estimates for the Board of Health at the Reichstag at Berlin, Herr von Bötticher, Secretary of State, in reply to questions, stated that medical investigations had shown that cholera bacilli did not live long in dead bodies, after these were buried, because the earth acted as a natural filter. The question of cremation was not one for the Imperial Parliament to deal with.

The total number of cases of cholera in Budapest since Sept. 26th, 1892, has been 1063, of which 459 proved fatal.

CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

A VISIT TO DUNKIRK.

Three Series of Cholera Outbreaks.—The Victims and their Homes.—Contamination of the Canals.—Cholera on Board the Barges.—The Erratic Drainage of Dunkirk.—Gas-pipes and Sewers.

DUNKIRK has always been a port of great importance to England in its relations with the Continent. For the possession of this port, or for its neutralisation as a fortress, battle after battle has been fought, but the fate of arms could not alter its advantageous geographical position. How much this port interests English commerce is shown by the fact that about 20,000 seamen sailing under the British flag enter the port of Dunkirk during the course of the year. Under such circumstances it must be a matter of concern, not only in France, but also in England, that the cholera epidemic should have spread to Dunkirk. Nor has Dunkirk alone suffered; but of the sixty-five communes that constitute the arrondissement of Dunkirk twenty-three have been infected by cholera. The epidemic, at least so far as its official record is concerned, began at Dunkirk on Aug. 31st, 1892, and the first death bears the date of Sept. 1st of that year. But there had been a suspicious death on Aug. 15th. This occurred at No. 37, Rue du Jeu de Paume, and was not recorded as a case of cholera, but fortunately was seen by Dr. Reumaux, public health officer. Having acquired considerable experience of cholera at the Hôpital de la Piété during the Paris epidemic of 1884, Dr. Reumaux at once concluded that Dunkirk was menaced by a cholera epidemic. Without losing a moment he reported his fears to the sub-prefect and urged that every necessary measure should at once be taken. Thus, when a fortnight later another case of cholera was reported, the authorities were prepared for the emergency. This, the first officially recognised case, occurred at No. 6, Rue du Milieu. In both instances the victims were very poor women and each lived in a cellar. There are many cellar dwellings at Dunkirk. The children of these women wandered about the streets, more particularly in the neighbourhood of the port. Like street arabs, they led a precarious existence, picking up whatever they could find. Perhaps they brought something home from a ship that had come from Antwerp, from Havre or from Hamburg. In any case their homes and mode of living were such as to lend themselves readily to the spread of disease. There were nine children living with their father and mother in a cellar at No 6, Rue du Milieu. Four days after the mother's death her youngest child, only a month old, died. Then a man and a woman who lodged in the same house died from cholera on Sept. 9th and 13th respectively, making in all four deaths in the one dwelling; but a woman living a little higher up the street, at No. 20, who had helped to nurse the patients and had laid out one of the bodies, died after only a few hours' illness on Sept. 12th. Then, close by, but round the corner of the Rue de la Paix, another death occurred.

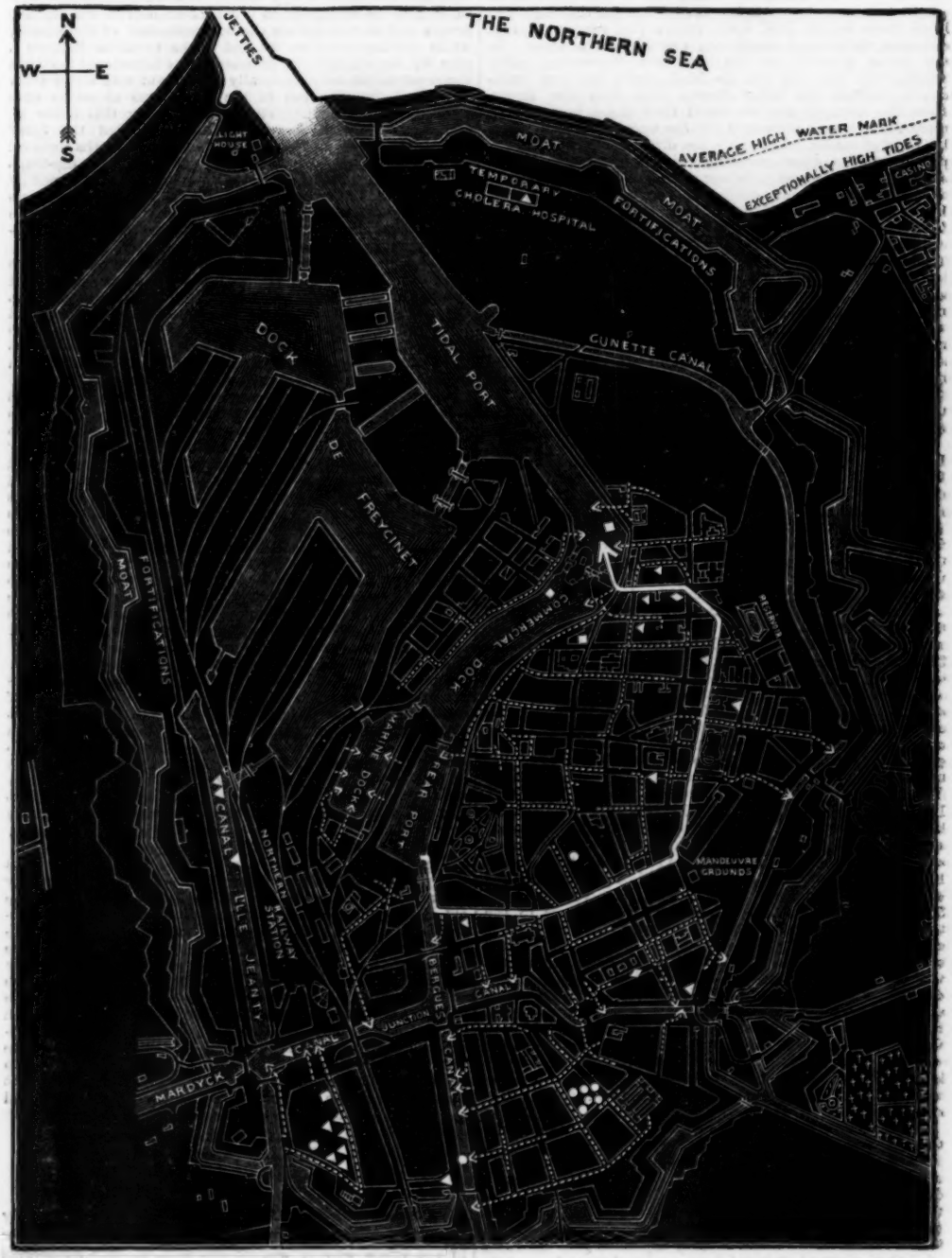
The Rue du Milieu is a broad but poverty-stricken street. No. 6 is a large house, with a small gloomy back-yard. The house had been evacuated, disinfected and white-washed when I went there, so that there was not much remaining to be seen. I was, however, able to note the presence in the small back-yard of a double-handed pump in close proximity with two closets. Along the whole street the water stagnated in the gutter; there was household refuse on all sides. At the end of the street there is a canal—the Canal de Berques—and for about half the length of the Rue du Milieu there is a sewer which has its outfall in the canal. All the houses drain into the gutter, and from the gutter either into this sewer or into the sewer of the Rue de la Paix, which joins the sewer of the Rue Vauban and then falls into the same canal. Indeed, if one examines the map it will be found that the Basse-Ville district drains into this canal, no less than four large and two small sewers falling into it close to each other. On the opposite side of the canal, in the Rue des Passerelles, the seventh death occurred, and the eighth was that of a bargeman whose barge was moored just by the outfall of the Rue du Milieu sewer. On going to the spot the other day I found another barge moored in identically the same place. The water from the sewer was warm and steaming. On inquiring of the persons on board the barge, they complained of bad odours from the sewer, and stated that they obtained their drinking-water from a fountain in the Rue du Milieu. Finally, a ninth death occurred on Sept. 24th in the Rue David d'Anger in the centre of the town, and some little distance from the other cases. The victim was an elderly spinster, and there seemed to be no relation between her and the other victims; but the eight previous cases all seemed connected one with another.

From Sept. 24th to Oct. 4th no further deaths occurred; but on the latter date a custom-house officer died at the barracks in the Rue Marengo, though doubtless he contracted the disease during the execution of his duties at the port. Then five days later a sailor arrived from Antwerp and died at No. 28, Rue des Arbres. On Oct. 12th a sailor from Calais was seized with cholera whilst on board his ship the *Mercure*, and on the following day another sailor was taken ill on board the *Notre Dame des Dunes*. Both these men died, and their ships were moored, the one in the tidal port and the other close by in the Commercial Dock—in either case very near to the outfall of the main sewer and the outfalls of other minor sewers. I should not omit to mention that the sailor who came from Antwerp was a coasting pilot. He had conducted a ship from Dunkirk to Antwerp and was returning by train. At the frontier he was stopped, and the whole of his luggage was seized to be disinfected. He arrived at Dunkirk without any change of clothes, and two days later, when his luggage arrived, having undergone disinfection, he was already dead. Nothing followed, and the death of the pilot and that of the custom-house officer may be considered as isolated cases. After the two sailors were taken ill on board their ships another sailor, who kept in the Place d'Armes, and a woman who nursed him, but lived in the Rue du Jeu de Mail, died on Oct. 23rd and 28th respectively. These four cases may be qualified as a second series, for after that another long interval ensued.

It was not till Nov. 17th that the epidemic broke out afresh, and this time in quite a different direction and with a different class of people. A woman living on board a barge was taken ill; the barge was moored in the Canal de l'Ile Jeanty. On the same day two men who worked in the port died, one in the Rue St Jean and the other in the Rue des Arbres. On Nov. 19th two more barge women and a child died, coming from the same canal, which it will be seen is close to the sewer outfalls from the Rue du Jeu de Mail and Rue des Passerelles, where there had been cases of cholera. Thus, as in the case of the man whose barge was moored in the Canal de Bergues, so now in the Junction and Jeanty canals we find cases on board boats moored near the outfalls of sewers draining contaminated districts. This seems a forcible illustration of the danger of draining towns into canals, an evil on which I previously insisted when describing the cholera at Calais.

On Nov. 20th a woman died in the Rue du Nord. A death occurred on the 25th in the Rue des Passerelles, another on the 27th in the Rue du Lion d'Or, and there were two more deaths in the Rue des Passerelles on the 29th and 30th. Now there ensued another respite, which was not broken till Dec. 15th, when an old man who fulfilled the functions of nurse at the wooden huts which served as a temporary cholera hospital, and which were situated in an isolated part of the fortifications, contracted the disease and died. After that a dock labourer died on the 24th in the Rue de la Canette; on the 26th and 28th there were two more deaths in the Rue du Jeu de Mail and one more in the Rue des Passerelles. On Dec. 26th a woman died at No. 38, Rue du Jeu de Paume, and it will be remembered that it was at No. 37 of this same street that the first suspicious case occurred. On Dec. 27th a woman leading a loose life died in the Rue du Quartier Neuf, and a child died in the Rue du Jeu de Mail. The last case recorded is that of a messenger. Altogether 59 persons were reported as suffering from cholera, with 35 deaths. It will be seen from the analysis of these latter that the town seems to have been invaded by the epidemic two or three times, and from different sources. Fortunately, in no case did the disease spread to any very alarming extent—a fact which may be due to the advanced period of the season and the vigorous measures of disinfection enforced. Not only were the patients isolated in the cholera hospital, but their relations were placed for several days in a sort of sanatorium or observation house. Most of the victims were very poor, intemperate persons. Dr. Reumaux, to whose courtesy and kind assistance in my researches I am greatly indebted, related that in a garret in Dunkirk he found a man in bed dead from cholera; his drunken wife lay by his side uncon-

MAP OF THE CHOLERA EPIDEMIC AT DUNKIRK.



In the map the continuous line indicates the course of the main sewer. The dotted lines are ordinary sewers and the arrows indicate sewer outfalls. The marks represent the fatal cases in three cholera outbreaks. The first series, from Sept. 1st to the 24th, are represented by circles. After this two apparently disconnected cases (marked by diamonds) occurred on Oct. 4th and 9th respectively. The second series of fatal cases are represented by squares and the third by the triangles.

scious of his death, while under the bed a little child was grovelling in the cholera dejecta. In such cases as this everything in the room was taken out and burnt. In the Rue des Passerelles I visited many very wretched overcrowded houses. There was a little row of cottages built in a hollow at least six feet below the level of the thoroughfare. Here there was a pool, some twelve feet square, of foul stagnant water that could not possibly drain away. In the upper portion of the Rue des Passerelles, after passing the Rue du Jeu de Mail, there are long back-courts behind the taller houses that face the street. Here the cottages are so small that there is not even room for a proper staircase, but the upper floor is reached by a sort of ladder. The yards are dirty, in many places not paved, and the closet accommodation is altogether insufficient. There are pumps in some of these dirty back-courts, though the inhabitants denied that they drank the water. In the Rue du Jeu de Mail I found persons drinking water from a pump in a back yard, though in the houses adjoining either side of this yard there had been deaths from cholera. The house in question (No. 30, Rue du Jeu de Mail) was occupied by no less than fourteen different families, and, with one exception, these were single-roomed tenements. The rents ranged from 5*s.* 8*d.* per week upwards. The overcrowding was intense, the poverty appalling, and the amount of fæcal matter in passages and along the street walls in all directions showed how insufficient is the closet accommodation and how filthy are the habits of the people. Yet in this, one of the worst, cholera centres people still drank well-water rather than take the trouble to fetch the pure town water from the neighbouring public fountains.

The water provided by the town comes from Houlte, in the Pas de Calais, at a distance of about twenty-five miles from Dunkirk. The springs are situated at an altitude of thirty-five metres above the town, and metallic pipes convey to Dunkirk 8000 cubic metres of water in twenty-four hours. There are scattered over Dunkirk forty-three public fountains, where water can be obtained gratuitously, and there are 223 hydrants under the pavement, generally utilised for the purpose of washing the gutters. The minimum subscription is 30 fr. a year for fifty cubic metres of water. The larger the quantity of water taken, the cheaper the subscription—thus, it is 60 centimes per cubic metre for 100 cubic metres per annum and only 15 centimes per cubic metre for 2500 cubic metres. As Dunkirk is surrounded by fortifications its population cannot increase beyond a certain limit, and it was therefore felt that the above supply would be sufficient; but it is very difficult to estimate the population of Dunkirk, for it varies considerably, according to the movements of the ships in the port and of the soldiers in the garrison. The last census set the population down at 39,194, including a garrison of 1317 soldiers. The number of deaths from 1883 to 1892 were year by year as follows: 1093, 1099, 1145, 1059, 970, 1060, 1024, 1103, 1056, 1120. The figure for last year is very high, in consequence of the influenza, as well as of the 35 deaths from cholera. This gives an average number of deaths per annum for the last ten years of 1072, which is equal to a death-rate of 27·36 per 1000 if calculated on the nominal population of the town; yet out of the 35 deaths due to cholera 7 were persons strangers to the town, such as sailors &c. So with regard to the other deaths many occur in the floating population which are not counted in the census returns. Nevertheless, the fact remains that the death-rate is high—indeed, according to our English estimate, very high. Yet Dunkirk has certain very striking advantages. Though a fortified town, the streets are fairly broad; they are, on the whole, well kept, whilst in most of the dwellings there prevails that Flemish cleanliness which has won so high a repute all the world over. In addition Dunkirk is exposed to the strong sea winds that sweep through the town and must very materially contribute to purify the atmosphere.

On the other hand, if we examine the drainage of the town, the causes of insalubrity are evident on all sides. It will be seen by the accompanying map that only some of the streets have sewers, and that these sewers drain into the nearest canal. There the sewage has time to deposit all the heavy matter it holds in suspension, for it is only occasionally that some of the water of the canal is drained off. It has been already explained that the cases of cholera occurred on board barges moored near the outfalls of sewers coming from streets where cholera had already broken out and that the sailors taken ill on board ships in the port were also moored near sewer outfalls. The ship in the tidal port, mentioned above, was not only near the mouths of three small sewers, but also just opposite the main sewer outfall. This main sewer forms a sort of circle round the centre of the town and is of comparatively recent structure. It measures 1 metre 80 c. by 1 metre. It was originally intended to receive the sewage from the greater part of the smaller sewers and to thus reduce the contamination of the canals. At its starting point at the end of the Canal de Berques a pipe 40 centimetres in diameter was introduced so that the sewer might be occasionally flushed out with water from the canal, but the fall in the sewer was so slight that it soon became foul. The idea of using this sewer as a main drain was abandoned; though called the *égout collecteur*, it does not collect. The sewer mouths gave off such bad odours that these were converted into dip-traps from which the mud and heavy deposits are emptied out by scavengers. The consequence is that the main sewer has no regular ventilation. The outfall, it will be seen, is at the commencement of the tidal port, in the midst of the shipping—much too near the town and much too far from the sea.

As for the numerous smaller sewers, they are built in the most extraordinary and erratic manner. As an example, I secured a plan of a portion of the Rue des Pierres, a frequented and central street running between the forts and the Place Jean Burt. The portion of this street nearest the Rue de l'Église has no sewer, but two private householders have built, on their own account, small drains along which the sewage can travel till it reaches the sewer. In the street, under the causeway, there are cesspools and water-cisterns side by side. In the accompanying map the main sewer is represented by a thick continuous line, the ordinary sewers by a dotted line, and the sewer outlets are denoted by arrows. One of the small private drains just mentioned is built through two cesspools. The extraordinary and erratic junction between the sewer and its branches attracted my notice. In one case the pavement stone of the causeway and of the gutter actually touches the roofing of the cesspool. I was not therefore surprised to find deep holes in this court as if the roofing of some of these cesspools had given way. In the Rue de l'Eglise, close by, the tramway passes and there is a great deal of traffic, yet the cesspool is better built, although it is too close to the surface of the street. The aperture is covered by an iron lid, and shows how these cesspools can be emptied from the street.

All this, however, may be put down as errors of the past, committed in days when little or nothing was known as to the science of drainage. In the street where so many cases of cholera have occurred the egg-shaped form of the sewer shows that it is of recent structure, but how is the connexion with the house established? Instead of draining off as rapidly as possible the foul water from the house, there is a huge sort of catchpit under the causeway with a stone that forms a dip-trap. It is only when this pit is full of slops and dirt that the more liquid portion begins to overflow towards the sewer, which it reaches by means of a square, clumsy drain, in which deposits are made along the whole course.

Finally, I would call attention to the condition of the sewers that pass by the theatre. Here we have the strange anomaly of gaspipes running straight athwart the sewers. They are old flat-bottomed sewers, through which it would be difficult enough for sewage to flow under the best circumstances; but with gas-pipes right across the current it is quite certain that these sewers are in a foul condition. Their antique character and their danger and inefficacy need not be pointed out. Evidently the whole of Dunkirk requires to be drained anew. A comprehensive scheme must be prepared, and the entire sewage collected on one spot and from thence propelled by mechanical power to an outfall at some distance from the town. Dunkirk is too flat and on too low a level to be drained by mere gravitation; nevertheless, it must be drained before it can obtain a normal death-rate and escape from the danger of cholera.

PUBLIC ANALYSTS' DIFFICULTIES.

THE Food and Drugs Act has been in operation for nearly twenty years, and, although adulteration is not practised now in the crude way it was at the time of the memorable Analytical Commission of THE LANCET, yet it is believed that it is still going on, not perhaps to so large an extent as before, but certainly with greater subtlety and skill. In the

days of THE LANCET Commission the detection of adulteration was comparatively easy, but the kind of adulteration then disclosed is seldom met with now. Then, for instance, it was that coffee was admixed with mahogany chips, sugar with sand, and tea faced with prussian blue—frauds which are easily detected—but now the ingenious adulteration of butter with foreign fats for example and the sophistication of olive oil with cotton seed oil &c., have to be dealt with, both of which are frauds which only the skilled and experienced analyst can detect. The work of the modern analyst is, in fact, more tedious than heretofore, requires greater skill, involves a wider knowledge of scientific facts, and often demands at his hands the pursuit and investigation of new methods and processes which shall cope with each new departure as it arises in connexion with the art and practice of adulteration.

Difficult, therefore, as the detection of adulteration threatens to become, it is especially desirable that the analyst—and we refer especially to the public analyst—should not "be let or sorely hindered" in carrying out the duties which are presented to him. Yet analysts have much to complain of, judging from the resolutions which were placed before a special meeting of their body—the Society of Public Analysts—at Burlington House on the 15th inst. No less than eight resolutions of the most important, and we may add drastic, kind were before the meeting, and, although it lasted but two hours, the resolutions moved were discussed at fair length and eventually carried, with two or three trifling exceptions, *nemine contradicente*. The first resolution on the list embodied the remaining seven; in effect, it provided that the amendment of the laws relating to adulteration was urgently needed. The resolutions which followed included most of those points which we have discussed time after time in our columns.

There is little doubt that the Acts in some instances operate injuriously on the retail traders, and it is desirable that some provision should be made by the present Act to ensure in cases of adulteration the prosecution of the real offenders. It is well known that retail tradesmen frequently put in the plea that they have sold goods exactly in the same condition as received from the wholesale dealers. If this be really so, then it is clearly an injustice to punish the retailers. There is, however, nothing to prevent the inspectors, we believe, from securing samples of milk if the authorities so choose, as it arrives at the railway stations from the wholesale dealers; but obviously this procedure could not conveniently be adopted in regard to other articles of food. One speaker, an eminent representative of the grocery trade, suggested—and his suggestion is worth consideration—that the inspectors should have free access to the factory as well as to the shop for the purpose of sampling, and in the case of imported goods samples should be taken at the port of entry at the same time that the excise officers make their examination. This plan would obviously enable the authorities to discover the real offenders, as well as to put a check upon the importation of goods adulterated abroad.

The unaccountable dilatoriness of the authorities in enforcing the Acts is a matter for serious consideration. In a great many districts—even in one metropolitan district—not a single sample was taken for analysis throughout the last official year. In consequence of this neglect there has actually been an association formed which appoints officers to select samples here and there in the country to ascertain the adulteration going on, with the view of making as widely known as possible the fact of a dealer practising fraud. Thus it is that private individuals are actually taking up the cudgels which the authorities have laid down, and which in some instances they have never taken up. One speaker made the astounding statement that when he was appointed public analyst for his district fifteen years ago he was told by the authorities that "there would never be anything to do," and that, he said, had practically been so to this day. Even where the Act is in operation the manner of collecting samples is simply farcical. As Mr. Hehner humorously asked, What is the good of sending a portly, brass-buttoned inspector into a shop to buy a pennyworth of mustard or pepper? It is not a particularly dignified duty for him to perform, he is not a regular customer, and his purchase is manifestly modest; the seller's suspicions are accordingly aroused and he takes care to supply the inspector with a specially kept and unadulterated article.

The proposal that there should be appointed a duly constituted chemical department of the Local Government Board, with which the Public Analyst, as branch officers, so to speak, of the Board, should be placed in direct relation, is one that merits consideration. It would certainly be an advantage if analysts could be officially apprised of the latest forms which adulteration is taking; they could be warned to look out for any special and novel kind of sophistication of which the Government officials in their capacity might become cognisant.

The present system of reference in the case of analysis is not satisfactory. On this account there has been a good deal of friction lately between public analysts and the Somerset House officials in regard to the wording of certificates. The chemists at Somerset House have for some time been known to base their interpretation of results upon an abnormal minimum. This has been specially so in the case of milk. We have argued before in favour of the fixing of a standard in the Act which would once and for all settle this much disputed point. That standard should be fixed by a court of experts, who could sit from time to time to revise or modify, as necessity arose, any existing limit. There would then be no need to shift the work at present undertaken by the Somerset House chemists to a newly-created department as has been suggested. There is, indeed, no reason for so doing; for we do not doubt that the Government analysts are equal to the task of conducting analyses. In all cases under dispute we suggest that the Somerset House officials should be referred to for a confirmation of the analytical result, but not for the expression of opinion as to the extent of adulteration. The standard fixed by the court of experts, were it a clause in the Act, would then decide whether the article in question was or was not adulterated. In short, let the Act decide the extent of adulteration and let the analysis made by the public analyst be officially checked by the Somerset House authorities. The analysis of sour milk, be it remarked, cannot be regarded as satisfactory, and the samples obtained in duplicate should accordingly be examined at once whether they are suspected to be adulterated or not.

These things being seriously considered, it is obviously most desirable that the present laws relating to adulteration, together with the unsatisfactory working of the Act as at present exists, should receive the early and earnest attention of our legislators. We have felt for some time, and have had evidence ourselves of the fact, that the Act has not been operating in the way it was intended to do. It has in many instances been reduced to a dead letter while in most districts—if not, indeed, in all—the number of samples taken for analyses has been totally inadequate if the suppression of adulteration is to be effected. With regard to analysts, they have done their work well, and it is satisfactory to note the steps they are taking to ensure the better qualification of officers of their order under the Act, upon the successful working of which the quality of our food-supply largely depends.

TIBBITS *V.* ALABASTER AND OTHERS.

THIS was an action brought by Dr. Herbert Tibbits to recover damages for an alleged libel against the proprietors of the *Electrical Review*, and was heard on the 15th and 16th inst. before Mr. Justice Mathew and a jury. Counsel for the plaintiff were Sir Richard Webster, Q.C., M.P., Mr. R. W. Wallace, and Mr. Germaine, for the defendants Mr. Lawson Walton, Q.C., M.P., and Mr. J. E. Banks. The libel complained of occurred in an article published in the defendant's paper on Sept. 23rd, 1892. The article was devoted to a criticism of the "Electropathic belts" and Dr. Tibbits was attacked because in a pamphlet advertising these belts there appeared a certificate given by him as to the nature and result of certain experiments which he had conducted with these belts for the purpose of determining whether (1) the apparatus would generate electricity and, if so, whether (2) the current so generated would penetrate the skin and flow through the deeper tissues of the body. Dr. Tibbits decided both these questions in the affirmative and gave details of his experiments made for the purpose. His description and deductions were textually quoted in the article and the writer commented very severely upon them as exhibiting "a most incredible ignorance of electrical laws," and further animadverted upon the conduct of Dr. Tibbits in putting forward such a statement and lending support to the trade in what was

denounced as a "useless electrical appliance," and his conduct was further stigmatised as calling for action on the part of the British Medical Association. The defence in substance was that the article complained of amounted to no more than fair criticism, and was justified by the publication passed under review.

The principal witness for the plaintiff was Dr. Tibbits himself. Evidence tendered in his behalf of the efficacy of these belts in the treatment of disease was rejected by the judge as not material to the issues raised in the case. For the defence a large number of electricians were called, the principal witness being Lord Kelvin, who had examined a belt and found that in the condition in which it had been sold the metal discs had not been connected up, and the belt was therefore incapable of generating any current at all. He considered that the experiment described by Dr. Tibbits for detecting a current flowing through the inner tissues did not at all sustain the inference which he had drawn from it, since the current observed would be induced by the test and would cease with the experiment. Others followed with confirmatory evidence, and Professor Silvanus Thompson, who had experimented with a belt in actual wear upon the body, proved that a current greater than that which the belt generated could be produced by merely plunging a pin and a needle together into a small drop of ink. With a moist skin he had obtained a current equal to one-fifth of a milliampère, with a very dry skin a current as small as the two-hundredth part of that quantity. Dr. H. L. Jones proved that the ordinary dose of electricity for medical purposes would amount to from two to ten milliampères.

The learned Judge, in summing up the case to the jury, directed them that a newspaper writer possesses no greater privilege than any other member of the public, but that any person is at liberty to express an honest conviction if he is influenced by no improper motive. He then reviewed the evidence and the article, pointing out that in the article the principal attack was directed not upon Dr. Tibbits, but upon the belt; and, drawing the attention of the jury to those passages in which Dr. Tibbits' competency to speak upon an electrical question and the propriety of his conduct were called in question, he left it to them to say whether the article, which he described as undoubtedly sharp and pungent, was libellous or not.

The jury, after a brief deliberation, returned a verdict for the defendants.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Ulverston Rural District.—This district, the population of which is estimated at 19,000, had, during the year 1892, a general death-rate of 14·68 and a zymotic death-rate of 0·84. Dr. Thompson gives the infantile mortality as 2·16 per 1000 of the population, but it might have been more convenient had he estimated it in the usual way in relation to the registered in births. There were 80 cases of infectious disease notified during 1892, as against 106 for 1891. Scarlet fever prevailed in parts of the district during the year and school closure was in some instances resorted to. An outbreak of diphtheria occurred in a family at Broughton-in-Furness, about which we should have liked further particulars. Apparently, one of the children having died from diphtheria, the family removed to an adjoining district, where a second child succumbed; finally another move was made and a third child developed the disease. The dates of attack and removal in each case, together with the methods of disinfection adopted, would have been of interest. As regards the improvement of the district we are told that Pennybridge has been efficiently drained, as also has part of Hawkshead.

Lincoln Urban District.—Dr. Harrison, in discussing the behaviour of infectious diseases in this district during the year, tells us that owing to the prevalence of small-pox in other parts of England the hospital was held in readiness to receive patients at any time. We are glad, however, to hear that the accommodation was not required. Measles caused 44 deaths, 42 of which were in the last quarter of the year. The report further states that of these 44 deaths 41 were those of children under five years of age. In commenting upon the mortality from measles, Dr. Harrison observes that this disease caused as many deaths during the last quarter of the year as were caused by small-pox in Lincoln during the last twenty-six years. In anticipation of an invasion of cholera the Sanitary Committee very properly ordered a special inspection of their district to be made with a view to remedy any nuisances or insanitary conditions that might be discovered, and to carry out this object four additional inspectors were appointed for a period of four weeks. We should have been interested to hear what qualifications these inspectors possessed for the work they undertook and what were the results of the survey in question. The general death-rate of the city was 19·0 per 1000, and the zymotic death-rate 2·9, while the infantile mortality amounted to 141 per 1000 births.

Small-pox in the Administrative County of Lancashire.—The county medical officer of health, in presenting to the public health committee the last quarterly returns, raises a question of considerable interest and importance—i.e., that of proper hospital provision for small-pox. The cases of this disease notified during the quarter ended Dec. 31st, 1892, amounted to 444, while in Warrington itself 341 cases and 50 deaths were recorded. Referring to the provision for small-pox in this borough, Mr. Sergeant states that "it must be admitted that the proximity of the small-pox pavilion to a crowded portion of the district may have assisted materially in the distribution of infection." It appears, too, that in 1888 an outbreak of small-pox in Chadderton was attributed to the proximity of the Oldham Corporation Hospital; and a similar distribution of the disease is said now to be taking place around the same hospital, the houses and streets attacked being almost identical with those in 1888. However this may be in these individual instances, it has of course been obvious for several years past that small-pox cannot be safely treated in a general fever hospital, or in any building, other than those with special arrangements for disinfecting the outgoing air, around which inhabited houses are aggregated. These dangers are said to be fully recognised by the Warrington Corporation; and at a conference which Mr. Sergeant held with their subcommittee it was suggested that, as small-pox cannot be safely treated in ordinary infectious hospitals, the County Council should obtain power to provide special buildings for the purpose. This suggestion Mr. Sergeant subsequently recommended the County Council to favourably consider. The desirability of erecting well-isolated small-pox hospitals will naturally be admitted by all, but there will probably be some difference of opinion as to who is to bear the cost. The Infectious Hospitals Bill, which was introduced into the House of Lords last session, has for its title "An Act for enabling County Councils to promote the establishment of hospitals for the reception of patients suffering from infectious diseases." In this Bill the expression "infectious diseases" has the same meaning as in the Infectious Disease (Notification) Act, 1889—so that possibly this might be construed as including the provision by County Councils of separate small-pox hospitals in addition to those used for infectious diseases other than small-pox.

Wellington Urban District.—This district was visited during the year by an epidemic of what Dr. Meredith regarded as German measles, though, as far as we are able to gather from the report, there seems to have been some difference of opinion as to the real nature of the outbreak. We observe that reference is made to the sequelæ of the disease, but we are not told what form they took. We hope Dr. Meredith will publish further details of the outbreak. The general death-rate of the district was 15·51 per 1000 and the zymotic death-rate 0·87; infantile mortality, 98·3. During the year the Local Board appointed a subcommittee to be prepared to take necessary precautions in the event of an outbreak of cholera, but we are told that they did not consider it necessary to incur the expense of providing a hospital.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6610 births and 3793 deaths were registered during the week ending Feb. 18th. The annual rate of mortality in these towns, which had declined in the preceding six weeks from 29·2 to 19·9 per 1000, further fell last week to 19·2. In London the rate was 18·8 per 1000, while it averaged 19·4 in the thirty-

two provincial towns. The lowest rates in these towns were 11·0 in Birkenhead, 14·5 in Norwich, 15·9 in Halifax and 16·1 in Derby; the highest rates were 21·6 in Cardiff, 21·9 in Bradford, 22·4 in Huddersfield, 24·8 in Oldham and 25·2 in Plymouth. The 3798 deaths included 368 which were referred to the principal zymotic diseases, against 351 and 361 in the preceding two weeks; of these, 91 resulted from whooping-cough, 88 from diphtheria, 64 from measles, 59 from scarlet fever, 36 from diarrhœa, 25 from "fever" (principally enteric) and 5 from small-pox. The lowest death-rates from these diseases were recorded in Brighton, Bristol, Huddersfield and Wolverhampton, and the highest rates in Swansea, Salford, Burnley, West Ham and Bolton. The greatest mortality from measles occurred in Cardiff, Bolton, Derby, Newcastle-upon-Tyne and Portsmouth; from scarlet fever in Swansea; from whooping-cough in Swansea, Birmingham, Norwich and Burnley; and from "fever" in Birkenhead. The 88 deaths from diphtheria included 60 in London, 9 in Manchester and 5 in West Ham. Two fatal cases of small-pox were registered in Salford and 1 each in Leicester, Oldham and Sunderland, but not one in London or in any other of the thirty-three large towns; 132 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 21 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2402, against 2683, 2580 and 2513 on the preceding three Saturdays; 217 new cases were admitted during the week, against 255 and 257 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 984 to 377 in the preceding five weeks, further fell to 350 last week, and were 113 below the corrected average. The causes of 84, or 2·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Leicester, Bradford, Leeds and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Huddersfield, Sheffield and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·9 and 24·2 per 1000 in the preceding two weeks, declined again to 22·1 during the week ending Feb. 18th, but exceeded by 2·9 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·1 in Greenock and 15·7 in Aberdeen to 29·3 in Leith and 37·1 in Dundee. The 624 deaths in these towns included 57 which were referred to measles, 22 to whooping-cough, 8 to scarlet fever, 8 to diphtheria, 8 to diarrhœa, 5 to "fever," and 1 to small-pox. In all, 109 deaths resulted from these principal zymotic diseases, against 93 and 109 in the preceding two weeks. These 109 deaths were equal to an annual rate of 3·9 per 1000, which exceeded by 2·0 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 41 and 51 in the preceding two weeks, further rose to 57 last week, of which 31 occurred in Dundee and 18 in Glasgow. The deaths referred to whooping-cough, which had declined from 18 to 13 in the previous four weeks, rose again to 22 last week and included 18 in Glasgow and 2 in Dundee. The 8 fatal cases of scarlet fever showed a decline of 5 from the number in the preceding week and included 6 in Glasgow and 2 in Leith. The deaths from diphtheria, which had been 11 and 9 in the preceding two weeks, further declined to 8 last week, of which 5 were recorded in Glasgow and 2 in Aberdeen. Of the 5 fatal cases of "fever," 3 occurred in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 159 and 182 in the preceding two weeks, declined to 165 last week, but exceeded by 11 the number in the corresponding week of last year. The causes of 56, or nearly 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the preceding five weeks from 34·6 to 24·3 per 1000, rose again to 29·7 during the week ending Feb. 18th. During the first seven weeks of the current quarter the death-rate in the city averaged 29·3 per 1000, against 23·7 in London and 23·9 in Edinburgh. The 199 deaths in Dublin during the week under notice showed an increase of 36 upon the number in the preceding week, and included 7 which were referred to "fever," 4 to diphtheria, 1 to scarlet fever, 1 to whooping-cough, 1 to diarrhœa, and not one either to small-pox or measles. In all, 14 deaths resulted from these principal zymotic diseases, equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 2·0 in London and 1·4 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 4 in the preceding two weeks, rose again to 7 last year. The 4 fatal cases of diphtheria exceeded those recorded in any week since January, 1883. The 199 deaths registered in Dublin last week included 22 of infants under one year of age and 57 of persons aged upwards of sixty years; the deaths of infants were below those recorded in any recent week, whilst those of elderly persons showed a marked increase. Three inquest cases and 1 death from violence were registered; and 71, or more than a third, of the deaths occurred in public institutions. The causes of 14, or 7 per cent., of the deaths in the city last week were not certified.

CALCUTTA.

The latest weekly returns in our possession are those for the weeks ending Dec. 31st of the last, and Jan. 7th of the present, year respectively. The total number of deaths registered in the town of Calcutta for the week ending Dec. 31st, 1892, was 240. There were 9 deaths from cholera, against 6 and 6 in the two preceding weeks; no deaths from small-pox. The general death-rate of the week was 26·8 per 1000 per annum. The total number of deaths registered in the amalgamated area of suburbs for the same week was 168. There were 13 deaths from cholera, against 4 and 10 in the two preceding weeks, and no deaths from small-pox. The general death-rate was 40·7 per 1000 per annum. The general death-rate of the combined area was equal to 31·2. For the week ending Jan. 7th last the total number of deaths registered in Calcutta was 240. There were 11 deaths from cholera, not one from small-pox, and the general death-rate of the week was 24·6 per 1000 per annum, against 29·2, the mean of the last five years. For the amalgamated area of suburbs for the same week the total number of deaths registered amounted to 142, against 168 and 141 in the two preceding weeks. There were 8 deaths from cholera, against 13 and 4 in the two preceding weeks, and no deaths from small-pox. The general death-rate of the week was 34·4. The total general death-rate of the combined area was equal to 27·7.

VITAL STATISTICS OF LONDON DURING 1892.

Complete statistics relating to sickness and mortality during the year 1892 in each of the forty-one sanitary districts of London are summarised in the table on the following page. The mortality statistics relate to the deaths of persons actually belonging to the various sanitary districts, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary districts in which the patients had previously resided. Without the distribution of these deaths, and especially of those resulting from zymotic diseases, no really trustworthy data can be secured upon which to calculate reliable rates of mortality.

With regard to the notified cases of infectious disease in London during 1892, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 10·8 per 1000 of the population estimated at 4,263,294 persons in the middle of the year. Amongst the various sanitary districts the lowest rates were 5·6 in St. James Westminster, 7·1 in Kensington, 7·2 in St. Martin-in-the-Fields and in Lewisham, 7·4 in Paddington and in St. George Hanover-square, 7·6 in Strand, and 7·7 in St. Saviour Southwark; the highest rates were 14·0 in Plumstead, 14·1 in Whitechapel, 14·3 in Holborn, 14·4 in Mile End Old Town, 15·0 in Poplar, and 15·5 in Bethnal Green. The prevalence of small-pox in London showed a marked increase during 1892, the cases notified being 423, against only 114 in the preceding year; of these, 83 belonged to Shoreditch, 42 to Islington, 36 to Bethnal Green, 34 to St. Pancras, 27 to Hackney, 24 to Lambeth, and 23 to Whitechapel sanitary districts. The number of small-pox patients admitted into the Metropolitan Asylum Hospitals during 1892 was 349, and 39 remained under treatment at the end of the year. The prevalence of scarlet

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING 1892.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1892.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,263,294	423	27,092	8349	20	2465	147	337	6933	54	45,820	10·8	29	3388	1167	1856	2475	11	424	20	2536	11,906	2·8	86,355	20·3	154
West Districts.																										
Paddington	119,199	3	541	171	—	47	1	7	115	—	885	7·4	—	80	21	28	29	—	8	—	72	238	2·0	2123	17·9	142
Kensington	166,721	3	723	191	1	58	4	13	184	5	1182	7·1	—	112	37	34	64	—	15	1	68	331	2·0	2927	17·6	159
Hammersmith	100,642	2	459	318	—	45	8	6	120	—	958	9·5	—	133	13	73	54	—	4	3	70	350	3·5	1969	19·6	167
Fulham	98,195	2	527	109	—	41	—	10	107	—	796	8·1	—	128	29	31	65	—	1	1	93	348	3·6	1963	20·0	166
Chelsea	97,300	4	533	203	—	51	3	6	180	1	981	10·1	1	106	27	39	39	—	6	—	72	290	3·0	1998	20·6	164
St. George Hanover-square	76,946	1	336	123	—	44	1	2	58	1	566	7·4	—	49	11	26	21	—	8	—	20	135	1·8	1343	17·5	142
Westminster	55,203	2	295	141	—	24	4	3	77	—	546	9·9	—	77	18	44	20	—	3	—	22	184	3·3	1297	23·6	169
St. James Westminster	24,368	4	69	28	—	13	1	1	19	2	137	5·6	—	17	5	6	7	—	1	—	7	43	1·8	441	18·2	129
North Districts.																										
Marylebone	140,799	11	703	226	1	73	6	6	243	2	1271	9·1	—	137	54	48	37	1	15	—	73	365	2·6	3070	21·9	132
Hampstead	71,652	1	322	132	—	49	1	8	54	—	567	7·9	—	25	5	27	22	—	2	—	15	96	1·3	873	12·2	122
St. Pancras	234,207	34	1292	438	—	118	4	26	426	5	2343	10·0	2	233	67	107	155	—	25	—	149	729	3·1	5147	22·0	166
Islington	324,451	42	1726	754	—	215	6	50	531	3	3327	10·3	3	179	53	150	161	—	40	1	189	776	2·4	6075	18·8	148
Hackney	235,370	27	1958	652	1	181	10	16	353	—	3198	13·6	1	102	66	131	122	—	23	1	125	571	2·4	4052	17·3	133
Central Districts.																										
St. Giles	29,071	8	175	63	—	26	—	1	105	—	378	9·7	—	47	5	21	11	—	9	—	22	115	3·0	921	23·6	153
St. Martin-in-the-Fields	14,204	—	54	26	—	6	2	—	14	—	102	7·2	—	9	4	12	1	—	—	—	4	30	2·1	327	23·1	146
Strand	24,256	7	111	32	—	12	—	1	22	—	185	7·6	—	53	3	8	15	—	4	—	8	91	3·8	689	28·5	229
Holborn	32,912	3	294	62	—	24	1	3	81	2	470	14·3	—	30	13	17	15	—	4	—	19	98	3·0	897	27·3	211
Clerkenwell	65,482	3	379	130	—	43	2	3	164	—	724	11·1	—	46	21	28	45	—	8	—	41	189	2·9	1628	24·9	172
St. Luke	41,850	9	229	45	3	14	2	1	103	—	406	9·7	4	37	9	14	29	1	2	1	33	130	3·1	1091	26·1	142
City of London	36,692	5	284	93	—	28	1	1	51	—	463	12·7	—	17	12	24	15	—	5	—	5	78	2·1	812	22·2	165
East Districts.																										
Shoreditch	123,683	33	831	215	2	89	5	11	253	—	1489	12·1	4	103	36	44	105	1	13	2	104	412	3·3	2839	23·0	165
Bethnal Green	129,408	36	932	581	—	102	3	14	336	—	2004	15·5	5	136	56	117	128	—	20	—	79	541	4·2	2984	23·1	158
Whitechapel	74,853	23	539	258	1	42	—	11	177	—	1051	14·1	—	65	34	59	43	1	5	—	42	249	3·3	1853	24·8	156
St. George-in-the-East	45,343	4	289	132	—	21	3	5	77	2	533	11·8	1	62	34	33	24	—	9	—	59	222	4·9	1262	27·9	183
Limehouse	57,480	7	511	93	—	40	—	7	100	—	758	13·2	—	72	28	25	72	—	7	—	37	241	4·2	1456	25·4	183
Mile End Old Town	107,811	10	954	258	—	79	1	13	235	1	1551	14·4	1	67	39	81	110	—	16	—	73	387	3·6	2489	23·2	153
Poplar	167,857	5	1470	484	—	183	20	12	340	3	2517	15·0	—	150	64	78	178	—	26	3	109	608	3·6	3754	22·4	164
South Districts.																										
St. Saviour Southwark	26 973	—	120	43	—	5	—	2	37	—	207	7·7	—	23	7	6	14	1	1	—	14	66	2·5	686	25·5	187
St. George South wark	59,846	2	375	76	—	28	—	4	108	—	593	9·9	—	69	17	26	44	—	7	1	37	201	3·4	1489	25·0	174
Newington	149,649	—	955	169	1	58	—	5	226	—	1414	12·2	—	182	45	38	93	1	10	1	83	453	3·9	2848	24·5	172
St. Olave Southwark	12,787	—	64	17	—	7	—	—	21	—	109	8·5	—	16	3	3	5	—	2	—	11	40	3·1	345	27·1	184
Bermondsey	84,440	2	645	96	1	43	—	5	170	1	963	11·4	—	69	30	20	53	1	6	—	44	223	2·6	1935	23·0	162
Rotherhithe	39 459	—	167	48	2	49	—	2	73	—	341	8·7	—	44	6	11	22	2	7	—	33	125	3·2	846	21·5	150
Lambeth	277,917	24	1778	538	2	119	35	17	410	25	2948	10·6	1	187	76	130	135	—	22	2	155	708	2·6	5495	19·8	136
Battersea	156,313	4	1132	370	—	70	7	15	286	—	1884	12·1	1	90	43	54	101	—	10	1	103	403	2·6	2779	17·8	163
Wandsworth	164,103	—	886	262	—	85	11	13	271	1	1529	9·3	—	82	29	65	89	—	13	2	97	377	2·3	2582	15·8	147
Camberwell	241,465	16	1549	303	—	103	2	15	280	—	2268	9·4	1	191	63	78	128	—	22	—	145	628	2·6	4512	18·7	155
Greenwich	169,734	11	1281	193	3	116	2	9	304	—	1919	11·3	1	106	37	52	96	1	23	—	126	442	2·6	3244	19·2	148
Lewisham (excluding Penge)	74,673	—	273	125	—	40	—	3	97	—	538	7·2	—	15	3	20	53	1	4	—	29	125	1·7	1107	14 9	138
Woolwich	41,376	2	335	16	—	17	—	3	45	—	421	10·2	—	19	11	4	17	—	11	—	25	87	2·1	815	19·8	147
Plumstead	91,704	19	993	135	2	40	1	7	79	—	1276	14·0	3	23	33	44	38	—	7	—	33	181	2·0	1392	15·2	110
Port of London	—	4	—	—	—	17	—	—	1	—	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 566 cases of membranous croup.

† Including deaths from membranous croup.

fever in London in 1892 exceeded that in any year on record; this disease was proportionally most prevalent in Hackney, Holborn, City of London, Whitechapel, Limehouse, Mile End Old Town, Newington, Woolwich and Plumstead sanitary districts. During the year under notice no fewer than 13,187 scarlet fever patients were admitted into the Metropolitan Asylum Hospitals; the number under treatment, which had been 1416 at the beginning of 1892, was 3168 at the end of December last. Diphtheria also showed greatly increased prevalence during 1892, the cases notified numbering 8349, against 5907 in the preceding year; this disease showed the highest proportional prevalence in Hammersmith, Westminster, Hackney, Bethnal Green, Whitechapel, St. George-in-the-East, and Poplar sanitary districts. The Metropolitan Asylum Hospitals contained 198 diphtheria patients at the beginning of 1892; 2339 new cases were admitted during the year, and 287 remained under treatment at the end of December last. Enteric fever was proportionally most prevalent in Poplar, Rotherhithe, and Plumstead sanitary districts. The number of enteric fever patients in the Metropolitan Asylum Hospitals, which had been 206 at the beginning of the year under notice, had declined to 87 at the end of December last; 623 patients were admitted during the year, against 920 during 1891. Erysipelas showed the highest proportional prevalence in St. Giles, Holborn, Clerkenwell, St. Luke, Shoreditch, Bethnal Green and Whitechapel sanitary districts. Of the 337 notified cases of puerperal fever 50 belonged to Islington, 26 to St. Pancras, 17 to Lambeth, 16 to Hackney, 15 to Battersea, and 15 to Camberwell sanitary districts.

During the year under notice the deaths of 86,355 persons belonging to London were registered, equal to a rate of 20·3 per 1000, against 18·0, 21·1, and 21·1 in the preceding three years 1889–90–91. In the various sanitary districts the lowest death-rates were 12·2 in Hampstead, 14·9 in Lewisham (excluding Penge), 15·2 in Plumstead, 15·8 in Wandsworth, 17·3 in Hackney, and 17·5 in St. George Hanover-square; the highest rates were 25·4 in Limehouse, 25·5 in St. Saviour Southwark, 26·1 in St. Luke, 27·1 in St. Olave Southwark, 27·3 in Holborn, 27·9 in St. George-in-the-East, and 28·5 in Strand. Taking the five groups of sanitary districts, the rate of mortality during 1892 was equal to 19·1 per 1000 in the West, 19·2 in the North, 19·4 in the South, 23·6 in the East, and 25·1 in the Central districts. To the principal zymotic diseases 11,906 deaths were referred in London during the year under notice; of these, 3388 resulted from measles, 2536 from diarrhœa, 2475 from whooping-cough, 1856 from diphtheria, 1167 from scarlet fever, 455 from different forms of "fever" (including 424 from enteric fever, 11 from typhus, and 20 from simple and ill-defined forms of fever), and 29 from small-pox. These 11,906 deaths were equal to an annual rate of 2·8 per 1000, against 2·3, 2·9, and 2·3 in the preceding three years 1889–90–91. Amongst the various sanitary districts the zymotic death-rates ranged from 1·3 in Hampstead, 1·7 in Lewisham, 1·8 in St. George Hanover-square and in St. James Westminster, and 2·0 in Paddington, in Kensington, and in Plumstead, to 3·6 in Fulham, in Mile End Old Town, and in Poplar, 3·8 in Strand, 3·9 in Newington, 4·2 in Bethnal Green and in Limehouse, and 4·9 in St. George-in-the-East. Twenty-nine fatal cases of small-pox were registered in London during 1892, the corrected average number in the preceding ten years being 344. Of these 29 deaths, 5 belonged to Bethnal Green, 4 to Shoreditch, 4 to St. Luke, 3 to Islington, and 3 to Plumstead sanitary districts. The 3388 deaths referred to measles exceeded by 791 the corrected average; among the various sanitary districts this disease showed the highest proportional fatality in Hammersmith, Fulham, Westminster, Strand, St. George-in-the-East, Limehouse, and Newington. The 1167 fatal cases of scarlet fever were 60 below the average annual number; this disease was proportionally most fatal in Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, and Greenwich sanitary districts. The 1856 deaths from diphtheria were as many as 712 above the corrected average; among the various sanitary districts this disease showed the highest proportional fatality in Hammersmith, Westminster, Hackney, St. Giles, St. Martin-in-the-Fields, London City, Bethnal Green, Whitechapel, St. George-in-the East, and Mile End Old Town. The 2475 fatal cases of whooping-cough were 524 below the corrected average; this disease was proportionally most fatal in Shoreditch, Bethnal Green, Limehouse, Mile End Old Town, Poplar, St. George Southwark, and Newington sanitary districts. The 455 deaths referred to different forms of "fever" were 364 below the average; there was no marked excess of "fever" mortality last year in any of the sanitary districts. The 2536 deaths referred to diarrhœa were 504 below the corrected average; among the various sanitary districts this disease showed the highest proportional fatality in Fulham, Chelsea, St. Luke, St. George-in-the-East, Rotherhithe, and Greenwich. In conclusion, it may be stated that the mortality in London during 1892 from measles and from diphtheria showed a marked excess, while that from each of the other zymotic diseases was below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to births registered, was equal to 154 per 1000, and almost corresponded with the mean proportion in the preceding ten years 1882–91, which was 152 per 1000. The rates of infant mortality in the various sanitary districts ranged from 110 in Plumstead, 122 in Hampstead, 129 in St. James Westminster, 132 in Marylebone, 133 in Hackney, and 136 in Lambeth to 174 in St. George Southwark, 183 in St. George-in-the-East, 184 in St. Olave Southwark, 186 in Limehouse, 187 in St. Saviour Southwark, 211 in Holborn, and 229 in Strand.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

THE following officers have embarked for India in the *Euphrates*:—Surgeon-Captains Nelis, Brannigan, Henderson, Daly, Gordon, Hardy and Bullen. The following have arrived from India in the *Malabar*:—Surgeon-Captains Hall and Cowden. Brigade-Surgeon-Lieutenant-Colonel O'Dwyer has arrived home on completion of a tour of service in Malta. Surgeon-Captain Long has embarked for Sierra Leone, and Surgeon-Captain McCarthy for Egypt. Surgeon-Captain Dixon has arrived from India on sick leave. Surgeon-Captain Wiles has been transferred from Chester to Ashton-under-Lyne. Surgeon-Major E. R. Cree assumed Medical Charge of the Royal Artillery, Mounted Infantry, Army Service Corps, Royal Engineers, Military Police, and details (including the officers and their families) quartered in Marlborough Lines, Aldershot, from the 15th inst. inclusive.

ARMY MEDICAL STAFF.

The *London Gazette* of Tuesday, Feb. 21st, confirms the promotions which we anticipated under the heading "Army Medical Staff" in our issue of Feb. 11th. Surgeon-Major-General Stewart Aaron Lithgow, M.D., C.B., D.S.O., is placed on retired pay (dated Feb. 6th, 1893). In consequence of this retirement Surgeon-Colonel T. Rudd obtains his promotion. Surgeon-Captain James Perceval Myles, from the Seconded List, to be Surgeon-Captain (dated Feb. 18th, 1893). Surgeon-Captain J. F. Bateson, now attached to the Coldstream Guards, has been placed at the disposal of the Khedive's Government for service with the Egyptian Army.

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments have been made:—3rd (Queen's Own) Bombay Light Cavalry: Surgeon-Captain C. M. Moore to the Medical Charge, but to continue to officiate with 2nd Central India Horse. 2nd Bombay (Prince of Wales' Own) Infantry (Grenadiers): Surgeon-Major J. E. Ferguson to the Medical Charge, vice Surgeon-Captain A. Milne, transferred to Civil Department. 14th Bombay Infantry: Surgeon-Captain G. S. Thompson from 4th Bombay Infantry to the Medical Charge. 16th Bombay Infantry: Surgeon-Captain S. E. Prall to the Medical Charge. 17th Bombay Infantry: Surgeon-Captain W. S. P. Ricketts to the Medical Charge, vice Surgeon-Major R. A. Ferguson, transferred to the Civil Department. 7th Bengal Cavalry: Surgeon-Captain A. G. Hendley to the Officiating Medical Charge of the Regiment, vice Surgeon-Captain J. M. Crawford. 13th Bengal Lancers: Surgeon-Captain C. H. Bedford to the Officiating Medical Charge of the Regiment, vice Surgeon-Major W. Conry. In supersession of Government Order No. 44 Med., dated Jan. 5th, 1893, Surgeon-Lieutenant-Colonel W. F. Murray is appointed to be Civil Surgeon of Puri. The services of Surgeon-Captain F. J. Drury, Resident Surgeon, Eden Hospital, are placed at the disposal of the Government of India in the Home Department. Surgeon-Captain F. P. Maynard is appointed to act as Civil Surgeon of Nadia, during the absence, on furlough, of Surgeon-Captain J. Clarke, or until further orders. In supersession of Government notification No. 41 Med., dated Jan. 5th, 1893, Surgeon-Major T. R. Macdonald is appointed

to be Civil Surgeon of Monghyr. This cancels Government notification No. 39 Med., dated Jan. 5th, 1893, appointing Surgeon-Captain C. R. M. Green to act as Civil Surgeon of Monghyr. The following postings are announced: Surgeon-Captain H. D. James, on arrival from England, to do duty Madras District. Surgeon-Captain C. W. H. Whitestone, M.B., doing duty Secunderabad District, to do duty Myingyan and Mandalay Districts. Surgeon-Lieutenant J. L. Macrae to report himself forthwith to the Principal Medical Officer, Rangoon District, for orders. The undermentioned gentlemen are appointed to be Fellows of the Allahabad University: Surgeon-Colonel J. Richardson, Inspector-General of Civil Hospitals, N.W. Provinces and Oudh; Surgeon-Lieutenant-Colonel J. McConaghey, Civil Surgeon, Allahabad. Brigade-Surgeon-Lieutenant-Colonel E. A. Birch, M.D., Principal of the Medical College, Calcutta, and *ex officio* First Physician of the Medical College Hospital, is granted special leave for six months; Surgeon-Major Bomford will officiate during his absence. Leave has been granted to Surgeon-Captain G. B. French, 8th Bengal Infantry, for one year; to Surgeon-Major G. A. Hughes for six months, on private affairs; and to Surgeon-Captain J. C. Morgan, for six months, on private affairs.

NAVAL MEDICAL SERVICE.

Inspector-General of Hospitals and Fleets James N. Dick, C.B., has been continued in his appointment as Director-General of the Medical Department of the Navy for a further period of five years. The following appointments are announced: Surgeons: G. H. H. Symonds and R. H. J. Browne to the *Royal Arthur*, J. L. Smith to the *Jackal*, and T. E. Honey to the *Warspite* (all dated March 2nd, 1893); E. R. D. Fasken to the *Wye*, and A. G. Andrews to the *Duke of Wellington* (both dated Feb. 11th, 1893). Surgeons and Agents: C. A. P. Osburne at Hythe (dated Feb. 11th, 1893); William H. Robinson at Fleetwood; John T. Howarth at Filey; and Thomas Readman at Aldborough.

VOLUNTEER CORPS.

Artillery: 1st Gloucestershire: Robert Guthrie Poole Lansdown, M.D., to be Surgeon-Lieutenant (dated Feb. 18th, 1893). *Rifle:* 1st Volunteer Battalion, the King's (Liverpool Regiment): Surgeon-Lieutenant J. C. Bradshaw resigns his commission (dated Feb. 18th, 1893). Her Majesty the Queen having approved of the disbandment of the Falmouth Volunteer Division of Submarine Miners, Royal Engineers, Surgeon-Captain Edward Head Moore has been allowed to resign his commission.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The winter classes of the school have been resumed at the headquarters of the Artists' Rifle Volunteers, Duke's-road, Euston-road, W.C., by permission of Colonel R. W. Edis, F.S.A., commanding Artists' Rifle Volunteers. Two strong companies consisting of officers, non-commissioned officers and men from metropolitan regiments were on parade. No. 1 Company, which consists entirely of new men, is receiving instruction in rendering first aid, stretcher drill and the lifting and laying of wounded, whilst No. 2 Company, which consists of those who have already obtained Army Ambulance certificates, is going through an advanced course consisting of instruction in the application of the roller bandage and in the use of the various articles composing the Army medical equipment in the field. Lectures are also to be given on the transport of wounded, with special reference to the method of removing wounded from the fighting line to the base of operations. Three new regiments have sent up men to be instructed; the Honourable Artillery Company, 1st Kent Volunteer Artillery and the 1st Volunteer Battalion Queen's Royal West Surrey Regiment. The prize competition will take place on Thursday, May 4th, and the official inspection and examination on the following Thursday at 8 P.M. Surgeon-Captain H. F. Stokes, senior medical officer, instructor, has announced that no more men can be taken in either class. The following officers have been selected to take part in the instruction: — Surgeon-Majors Culver James, M.D., and H. A. C. Watson, London Scottish Rifle Volunteers; Surgeon-Captains J. Cagney, M.D., and R. R. Sleman, Artists' Rifle Volunteers; Dundas-Grant, M.D., 24th Middlesex Rifle Volunteers, and Edgar Hughes, London Rifle Brigade.

SURGEON-LIEUTENANT-COLONEL HENRY WAGHORN, M.R.C.S. ENG. AND L.M., L.S.A.

Surgeon-Lieutenant-Colonel Waghorn, who died at Newport on Feb. 10th, was appointed Assistant Surgeon in March, 1865, was promoted to Surgeon in 1873, to Surgeon-Major in 1877 and to Surgeon-Lieutenant-Colonel in 1891. He served in the Afghan War in 1880, took part in the defence of Candahar, including the sortie of Deh Khojah, and was present at the battle of Candahar, receiving the medal with clasp. He also served in the Boer War of 1881.

THE DIRECTOR-GENERALSHIP OF THE NAVY.

As we have already announced, the present Director-General of the Naval Medical Service is to be retained in his appointment for another five years. Whilst we sincerely congratulate this officer personally on his reappointment and on the official recognition it implies of the ability and services he has rendered in his present post, of which we have no doubt, we may nevertheless and as a matter of principle state that we object to such reappointments because they necessarily exclude other meritorious and, it may be, distinguished officers from occupying a position to which they may aspire, and tend, as a rule, to block or retard promotion in the service in which they occur.

THE REPORT OF LORD WANTAGE'S COMMITTEE.

It is understood that, on the introduction of the Army Estimates, Lord Wolmer will call the attention of the House of Commons to the report of Lord Wantage's committee with reference to the conditions of service in the Army and move a resolution on the subject, which will be seconded by General Sir George Chesney.

GOOD SERVICE AWARD.

Surgeon-Major-General J. Pinkerton, M.D., Bombay Medical Department, has been granted the good service pension vacant in consequence of the death of Deputy-Surgeon-General C. J. F. MacDowall.

THE STAFF OF THE DIRECTOR-GENERAL OF THE ARMY MEDICAL DEPARTMENT.

We learn from the Indian papers that Brigade-Surgeon-Lieutenant-Colonel Taylor, Secretary to the Principal Medical Officer of Her Majesty's Forces in India, has been appointed to the Staff of the Director-General of the Army Medical Department.

BARRACK ACCOMMODATION IN LONDON.

Millbank Prison, as is well known, is to be pulled down, and a site of upwards of twenty acres will be consequently available for building purposes. The Treasury in December last intimated to the London County Council that they would favourably consider any proposal for the provision of artisans' buildings at a price below the estimated value of the land, retaining a portion of the site, however, for the creation of military barracks. To such a proposal the London County Council desire to add a condition that the Government shall not undertake to devote any part of the site to the building of barracks, as the close proximity of British soldiers constitutes a disparagement of the site for neighbouring habitations. The Treasury do not, of course, admit this objection, and point out that the proper housing of the troops is a national concern, that the site is a large one and offers advantages which, considering the extreme difficulty in obtaining suitable land in London, cannot, and should not, be set aside, and their Lordships therefore hope that the London County Council will withdraw their objection. We think the Treasury are reasonable in the view they have taken. Improved barrack accommodation for the garrison of London is sorely needed. The troops are at present badly housed and occasionally overcrowded, and the provision of additional barracks is necessary and must be obtained somewhere. The only question that arises is, whether it would not, on sanitary grounds, be preferable to quarter as many of the troops as practicable out of London altogether.

QUESTIONS SET AT THE RECENT EXAMINATION OF CANDIDATES FOR HER MAJESTY'S ARMY AND INDIAN MEDICAL SERVICES.

ANATOMY AND PHYSIOLOGY.—SIR JOSEPH FAYRER.

Monday, Feb. 6th, 1893, from 10 a.m. till 1 p.m.

1. Describe the osseous boundaries of the orbit; the relative position and connexion of the various bones. Describe also the contents (excluding the eye from the description) and the relative position of the parts within the cavity. 2. Describe the origin, the course and distribution of the peroneal artery, as also its anastomosis. 3. Describe the medulla oblongata, giving an account of the minute structure, relations and its connexion with the cerebrum, cerebellum and spinal cord. Give an account also of its functions. 4. Describe the structure, anatomical position and relations of the crystalline lens. Describe also the part which it takes in vision and the changes which occur in it during accommodation and how they are accomplished. 5. Describe the structure, anatomical relations and coverings of the spermatic cord.

SURGERY.—MR. POLLOCK.

Monday, Feb. 6th, 1893, from 2 p.m. to 5 p.m.

1. Describe the symptoms which indicate the commencement of scrofulous disease of the upper cervical vertebræ; its usual progress and its treatment. 2. Describe the state of an eye affected by syphilitic iritis. Give the details of its progress, result and treatment of the case. 3. In a case of hæmaturia, mention the sources from which the blood may be derived, the symptoms on which your diagnosis would be formed and the treatment to be adopted under the various conditions. 4. Describe the symptoms and treatment of popliteal aneurysm, the ill consequences which may ensue after treatment and how they should be met. 5. Describe the symptoms, pathology and treatment of tubercular disease of the testicle. 6. Describe the process of reunion of a simple fracture in the shaft of a long bone; the conditions liable to retard or interfere with union and the treatment under such circumstances.

MEDICINE.—DR. ALLCHIN.

Tuesday, Feb. 7th, 1893, from 10 a.m. till 1 p.m.

I. P——, aged sixty, has been a sailor for forty years, leading a very hard, exposed life, and formerly spent much time in the tropics and on the South American coast, living mainly on salt provisions and very coarse food; is married and has six children; always very temperate and for thirty years has not taken alcoholic liquors. No reliable facts can be ascertained concerning his family history. Up to the present illness has been remarkably strong and healthy; had an attack of gonorrhœa when a young man, but never had syphilis, nor did he suffer from any tropical disease, as malaria, dysentery or yellow fever, though much exposed to them. The present illness began two years before coming under notice with an attack of jaundice, ushered in by shivering, which was attributed by the patient to taking cold. This lasted two or three months and was unaccompanied by pain and, so far as can be ascertained, any definite symptoms. He states that he quite recovered from this and entirely lost the discolouration. Whether he had another attack of jaundice before the present one is doubtful, but there is some reason to think he had one at least; but he never had any pain nor hæmatemesis, nor loss of blood by the bowels, but states that his stools had been putty like for the past two years, and that he has occasionally vomited bilious matter. On admission to the hospital the patient was considerably jaundiced, the colouration being rather of a dark greenish tint than bright yellow, and he said that he had been so for five months. He looks fully his age, hair and beard grey; slight arcus senilis; complains of no pain, and is sure he has had none, but suffers from constant and intolerable itching which leads to much scratching; is much emaciated, and is very weak. Temperature 103°, fell next morning to normal. No œdema of the face or extremities. The abdomen is not distended and there is no ascites. The liver can be felt about one inch and a half below costal margin in right nipple line and about the same distance below tip of xiphoid cartilage; the organ feels hard, but no perceptible irregularities of surface, and no tenderness is elicited, even on deep pressure. The splenic dulness extends slightly below the ribs, but no other abnormality is to be detected in the abdomen. Percussion resonance over the chest generally increased; heart sounds normal; pulse 75, no rigidity of vessels. During the next three months the patient's state varied, but the general tendency was downwards, though not to a marked extent. The jaundice persisted, though at times the colouration appeared to be less, and certainly did not increase in intensity. He continued to lose weight, but though this remained the same for the last month (viz., 119 lb.), his strength was variable; at times he was hardly able to turn in his bed, and at others was up and about the ward for days together. The temperature, which was generally normal, exhibited frequent exacerbations of a few hours' duration, the thermometer indicating 102°, 103°, and even 104°; these attacks, which occurred at very irregular intervals of from one or two days to a fortnight or more, were accompanied by shivering and sweating, and during and immediately subsequent to them he appeared to be very ill. His appetite was uncertain; when at its best he was on fish diet. For the first seven weeks after admission the stools were clay-coloured, but they then became normal in appearance and remained so. The urine always contained some bile pigments, and was noticeably darker immediately after each pyrexial attack, becoming paler in the intervals. No bile acids nor leucin nor tyrosin were found. The urine was about normal in quantity. When under observation he did not vomit, but felt sick at times. The condition of the liver and spleen, so far as could be detected by physical examination, remained about the same as on admission, and he never complained of pain and there was no dropsy. During the last three weeks there was a slight improvement in most of the symptoms.

1. Comment on this case with reference (*a*) to its pathology and probable post-mortem appearances and their relation to the symptoms manifested; (*b*) to the treatment. 2. Discuss the pathology of dropsy associated with renal disease. 3. Describe the condition termed "pernicious anæmia," its pathology, symptoms, diagnosis and treatment. 4. What nervous affections may be attributed to lead poisoning? Describe them, and state what treatment you would adopt. 5. Enumerate the various drugs classed as "cardiac tonics," and explain generally their mode of action.

CHEMISTRY AND PHARMACY.—DR. SHORE.

Tuesday, Feb. 7th, 1893, from 2 p.m. till 4 p.m.

1. Define clearly the terms:—atom, molecule, atomic weight, crith. What is the relation between the atomic weight of an element and its specific heat? 2. Give an account of the preparation and properties of hydrocyanic acid. By what chemical tests could you detect hydrocyanic acid or a cyanide in cases of suspected poisoning? 3. A case is suspected to be one of poisoning by tartar emetic. Describe minutely how you would proceed to detect its presence in (*a*) the vomit; (*b*. the tissues of the body. 4. Mention the Pharmacopœial preparations which contain iodine. State how iodine and the various official iodides are prepared.

NATURAL SCIENCES.—DR. SHORE.

Tuesday, Feb. 7th, 1893, from 4 p.m. till 6 p.m.

Zoology and Comparative Anatomy.—1. Describe the life history of (*a*) fasciola hepatica, (*b*) tænia echinococcus. 2. Briefly describe (*a*) the stomach of a ruminant; (*b*) the cervical vertebræ of a bird; (*c*) the skull of a dog-fish.

Botany.—3. Give an account of the functions of chlorophyll. Point out the differences in the nature of the necessary food of a plant devoid of this substance as compared with one which contains it. 4. Contrast the structure and growth of the stem of a dicotyledon with that of a monocotyledon.

Physics and Physical Geography.—5. State and explain the laws as to the relation between the volume of a gas and the pressure and temperature under which it exists. 6. Give an account of the variations in depth at different parts of the Atlantic Ocean and describe as far as you can the general form of the ocean bottom.

MEDICAL STAFF EXAMINATION.

The following is the list of successful candidates for commissions in the Medical Staff of Her Majesty's Army at the recent examination in London:—

	Marks.		Marks.
Spencer, C. G.	2565	Killery, St. J. B. ..	2245
Fowler, C. E. P. ..	2560	Barter, W. P.	2230
Goodwin, T. H. J. C.	2550	Lattey, A.	2215
Porter, H. E. B. ..	2400	French, H. C.	2180
Collins, D. J.	2390	McMunn, J. R.	2180
Smith, W. W.	2385	Anderson, J. R. ..	2075
Keble, A. R. C. ..	2290	Williams, E. M. ..	1990

INDIAN MEDICAL SERVICE EXAMINATION.

The following is the list of candidates for Her Majesty's Indian Medical Service who were successful at the Competitive Examination held at Burlington House on Feb. 6th, 1893, and the following days. Thirty-six candidates competed for fifteen appointments and thirty-three were reported qualified:—

	Marks.		Marks.
Stevens, C. R.	3150	Kilkelly, P. P.	2670
Birdwood, G. T. ..	2965	Sutherland, H. L. ..	2660
Rogers, L.	2905	Mulvany, J.	2625
Newman, E. A. R. ..	2875	Foulkes, T. H.	2575
Barry, C. C. S.	2810	Stodart, T.	2545
Turner, R. G.	2810	Nauth, B.	2539
Davidson, J.	2790	Sharman, E. H. ..	2505
Gould, J.	2770		

Correspondence.

"Audi alteram partem."

"SYMPHYSIOTOMY."

To the Editors of THE LANCET.

SIRS,—I have read with much interest the excellent lecture of Dr. Pinard and your leading article thereon in your last issue. I have been in correspondence for some time past with Dr. Robert P. Harris of Philadelphia on the subject of symphysiotomy, each of us being strong advocates for its adoption in our respective countries, and I think the following letter received to-day from him may be found of interest to your readers at this time.

I am, Sirs, yours obediently,

Grosvenor-street, W., Feb. 21st, 1893. CLEMENT GODSON.

South Twelfth-street, Philadelphia, Feb. 10th, 1893.

DEAR DR. GODSON,—Symphysiotomy in America has so completely set aside all our old prejudices, that under an antiseptic technique it has become a popular method of delivery. No form of disability has resulted and the pelvis very soon becomes as solid as before the section and strain. In seventeen weeks there have been ten operations in the United States and one in Canada, divided as follows:—In Brooklyn, 1; Philadelphia, 3; Baltimore, 1; Montreal, Canada, 1; Paris, Illinois, 1; Pittsburgh, 1; New York, 3. One death occurred in New York last month, after seventeen hours, in a woman operated on *in extremis* with a pulse of 150. The Baltimore woman walked about the hospital ward in twelve days. The Paris, Illinois, case carried her baby on a visit of three miles over a rough icy road "without harm or inconvenience" seven weeks after her operation. The three cases in Philadelphia made perfect recoveries and their children left their respective hospitals well. I have no regrets for having introduced this operation into the United States and only hear very kindly words expressed by our best obstetrical thinkers in regard to my advocacy of it.

To those who read Polish I can recommend a very exhaustive monograph upon "Symfyseotomii," recently published by Dr. Franciszek Neugebauer of Warsaw, so well known for his labours upon the origin of spondylolisthesis. He is certainly a most persevering investigator.

I hope soon to hear of a symphysiotomy having been performed with entire success in London. The last 100 Porro's prior to Jan. 1st, 1892 (Dec. 12th, 1889, to Jan. 1st, 1892) saved 86 women but lost 28 children. The first 100 lost 59 women. I have a record of 441 operations, under 224 operators in sixteen years and in twenty-one countries—154 operated but once each.

Yours very truly,

ROBERT P. HARRIS.

To the Editors of THE LANCET.

SIRS,—In common, I should say, with many of the readers of THE LANCET I have read with much interest M. Pinard's lecture on Symphysiotomy, and likewise the instructive and

appreciative leading article in the same number calling attention to what may prove to be an epoch-making paper so far as this country is concerned. Able, however, as is M. Pinard's contribution, and fortunate as seems to have been the issue of his cases, there are some points in it to which I think emphatic attention should be drawn. In the first place, the conjugate pelvic diameter in none of the thirteen cases was less than three inches and a half, and in four it was quite four inches. It is not stated, moreover, how these measurements were determined; and anyone who has had much experience in the matter knows that extreme accuracy is not always very easily attained. Accepting these measurements, however, as accurate, it will be agreed not only that the contraction was not extreme (a point considered in the leading article), but that the measurement in several cases was one involving no insuperable obstacle to an expert obstetrician using forceps or turning. In Case 8, further, in which the pelvic conjugate is stated to have been 9·7 cm. (three inches and three-quarters), a large healthy child was born alive at term spontaneously in the first confinement. In the second the vertex presented in the left transverse position, which in this country we should term the "left occipito-posterior." A male child was easily extracted after symphysiotomy in a condition of suspended animation, but revived. The puerperium was "pathological," but the mother also recovered. With a diminishing population, no doubt a French obstetrician considers it his duty to emphasise the great importance of a live fœtus. In this country I trust no one will accuse us of a want of solicitude in this respect, but it has always been considered that the tree has a prior claim to the fruit—that the absolute safety of the mother, so far as we can secure it, is our paramount indication and duty.

It is because I fear that the influence of symphysiotomy may be to diminish the cultivation of the highest manipulative and instrumental dexterity, of which none are greater masters than innumerable members of our profession in general practice, and that thus the danger to the mother may be increased, that I have ventured to call attention to these points. That symphysiotomy will acquire a certain definite place in obstetrics I think there can be little doubt; that it will in England play the *rôle* which M. Pinard seems to contemplate is, I believe, very doubtful. I trust the subject will be fully discussed in the columns of THE LANCET. As one differentiating from general practice, but not towards obstetrics—in which, however, I can never cease to take an interest, but of which in this age of specialism, so justly condemned by you, I must assume a profound ignorance—permit me to enclose my card and subscribe myself,

Sirs, yours truly,

Feb. 18th, 1893. M.R.C.P.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

To the Editors of THE LANCET.

SIRS,—Mr. Lawson Tait has contributed to your last number a letter in which he states that the skeleton report of the meeting held at Birmingham in support of the British Institute of Preventive Medicine represents but incompletely the meaning he intended to convey in his speech. As I was present at the meeting, will you allow me to say that, in my opinion, the report published by you is perfectly accurate, and represented exactly the impression which Mr. Tait's words conveyed to those present at the meeting. Mr. Lawson Tait, in support of his assertion, makes a number of statements which are not correct. In the first place, Mr. Tait did not say that he "objected altogether to the past record of experiments on animals as delusive," but that "he objected to a certain class of surgical experiments made chiefly to prove that somebody else was wrong." Mr. Tait did not say that bacteriological research had possibly proved of value to animals, but that it had undoubtedly done so. Mr. Tait did not say that "in its application to man he could not admit in a single instance the word "proved," so lavishly used by me; but he said that he did not admit the value of M. Pasteur's treatment for rabies, and he did not refer to any other forms of treatment founded on experimentation on animals. Mr. Tait further added that "a great deal of good has been accomplished by such investigations"—words which were taken down at the time. This is not the first occasion on which Mr. Lawson Tait has denied the fact that, when brought face to face with his fellow-practitioners in Birmingham, he threw over his friends of the Victoria-street Anti-vivisection Society. Mr Victor Horsley, in the *Rock* (Feb. 10th, 1893), stated that he had done so—a fact which Mr. Tait then denied. The matter, however, was referred to Mr. Henry Eales, President of the Midland Medical Society, who presided at the Birmingham meeting and who wrote the following letter, which appeared in the *Rock*, Feb. 17th, 1893:

[Copy.]

7, Newhall-street, Birmingham, Feb. 12th, 1893.

DEAR MR. HORSLEY,—I have read carefully your letter and that of Mr. Tait in the *Rock*, which you kindly sent me, as chairman of the meeting which took place here on Feb. 2nd, when Dr. Ruffer placed before our profession the claims of the British Institute of Preventive Medicine to our support, and I have no hesitation in saying that your representation of Mr. Tait's attitude is perfectly correct. I may say that, not wishing to rely entirely on my own memory, I have conferred with three of the leaders of our profession here and placed Mr. Tait's and your letters before them, and they agree with me in this view.

Mr. Gilbert Barling, who at the meeting congratulated Mr. Tait on having, however tardily, come to see that his attitude in the past was untenable and on having had the courage to admit this, writes me, with authority to use his communication, as follows: "I understood Mr. Tait to give a general approval to the objects of the Institute of Preventive Medicine, the chief of these dwelt upon by Dr. Ruffer being the advancement of the science of bacteriology by experimental research. In speaking after Mr. Tait and in his presence, I congratulated him on assuming a position in this matter, so different to that which he previously held, and he did not demur to my interpretation of his remarks." I may say that I heard Mr. Tait's remarks with profound astonishment, which I have since learned was the invariable feeling they excited in those who heard them, it being quite unexpected that he would have accorded even "a reluctant assent" to the proposition before the meeting, and his speech was the most striking incident of the proceedings. You have my full permission to make what use you think fit of this letter.

I am, yours truly,

To Victor Horsley, Esq., F.R.S. HENRY EALES.

With regard to Mr. Lawson Tait leaving the room before the end of the meeting, I must be excused if I am still of opinion that he did so because, having become the champion of the Victoria-street Society, at St. James's Hall, he was afraid to hear what Mr. Horsley had to say about his conduct and that he therefore took the wisest course and ran away.

I am, Sirs, your obedient servant,

M. ARMAND RUFFER.

Iddesleigh Mansions, Westminster, Feb. 20th, 1893.

"ARE DISEASE GERMS IN MILK DESTROYED BY BOILING?"

To the Editors of THE LANCET.

SIRS,—There can be no doubt that micro-organisms may escape being killed by boiling for a few minutes, as was abundantly proved in the experiments by which Pouchet and Bastian sought to found the doctrine of abiogenesis. This is probably due to the presence of solid particles, which afford them some protection from the boiling fluid. But it is a great pity to throw any doubt on the general utility of boiling as a means of disinfecting milk, and the opinion that boiled milk is injurious to children is a very foolish and dangerous one. Even if it were proved that boiled milk loses a slight percentage of its nutritive properties, this disadvantage would be more than compensated by the freedom from risk of infection by scarlet fever and diphtheria, which are frequently conveyed in milk, and the probable dangers from tubercle and from cholera, if the last-named disease should reach our shores during this year. Compared to the danger of kissing a Testament in a court of justice—an act which has never been shown to be the source of disease in any single instance—this question of disinfecting milk is of the highest importance to the public health, and until our County Councils can be trusted to provide us with milk above all suspicion I would advise everyone to have it boiled on delivery and to boil it well.

I am, Sirs, yours truly,

ROBERT SAUNDBY.

Edmund-street, Birmingham, Feb. 18th, 1893.

STRANGE INCIDENTS IN PRACTICE.

To the Editors of THE LANCET.

SIRS,—The case of the gentleman who for many years did not speak, recorded by Sir William Dalby on p. 241 of THE LANCET of the 4th inst., recalls to my mind the case of another gentleman, which was referred to during the recent trial of an action in one of the Superior Courts. It appears that he suddenly ceased to speak, and, although it is alleged that no other alteration in his general state, which up to the commencement of his silence was normal and

healthy, was observed, he was, within twelve months, an inmate of a private lunatic asylum, where he remained for several years, and the many medical men who saw him during that period could make nothing of his case. At last one day, during the visit to the asylum of a now deceased London physician, to whom the resident medical officer was relating the case of the "dumb gentleman," the "dumb" man spoke. The whole affair can be explained in a few lines. It appears that this gentleman had a home which was the reverse of happy, and a wife whose tongue was long and unruly. He had put up with it for several years; but eventually, and when smarting under an unusually large amount of nagging and abuse, he suddenly resolved to maintain a rigid silence for *five* years. The five years were up on the very morning the London physician visited the asylum. I may add that not only did I know that physician personally, but I heard him tell the story more than once.

I am, Sirs, yours truly,

Feb. 6th, 1893. BERNARD O'CONNOR.

"SENSITIVENESS OF THE PERITONEUM."

To the Editors of THE LANCET.

SIRS,—Dr. W. J. Sinclair comes very late into the discussion and his contribution to it seems to be intended much less as pertinent to the issue than as a display of what he believes he has discovered as an inconsistency on my own part. Even if he were correct it would only prove that I am fallible as others are, but it would prove nothing one way or the other about the sensitiveness of the peritoneum. Speaking on the question of experiments on animals Dr. Sinclair says: "He (Mr. Tait) draws largely upon two papers contributed to the Transactions of the British Gynæcological Society by Mr. Bland Sutton and Dr. Arthur W. Johnstone of Kentucky, and he refers to them in terms of extravagant praise. But will it be believed by your readers who may be unfamiliar with this class of subject that the essay so characterised by Mr. Lawson Tait depended for some of its brilliant qualities upon the researches of Johnstone on the wombs of animals?" All this is perfectly true, for Johnstone did his work under my own eye, the only peculiarity about it being that his observations on the wombs of animals were all made upon specimens obtained from the butcher's shop. So again, concerning Mr. Bland Sutton's observations, I cannot discover that any experiment in the vivisection sense was ever used by Mr. Sutton for any of his conclusions. He certainly has never had a licence for any experiments, and has placed none such on record. I think you will therefore agree with me that such criticism as Dr. Sinclair's is purely senseless.

I am, Sirs, yours truly,

The Crescent, Birmingham, Feb. 20th, 1893. LAWSON TAIT.

DENTAL ADVERTISING.

To the Editors of THE LANCET.

SIRS,—A movement having been set on foot by dentists to prevent the disgraceful advertising which one so often sees in the newspapers, and even on the walls by the lower class of dentists, I think the medical profession should assist the dentists in calling upon the Medical Council to use their undoubted powers to prevent it. A large number of dentists now not only have a dental qualification but also hold a medical one, and these feel acutely the stigma of being in any way associated with the advertising section on the Dental Register. I hope the time is not far distant when the Medical Council will act in accordance with the petition which Mr. Blandy published in THE LANCET of Feb. 11th—i.e., remove the names of the advertising dentists from the Dental Register. I am, Sir, yours truly,

WILLIAM E. TRESIDDER, M.B. Lond.

Nottingham, Feb. 21st, 1893.

ASCARIDES AND EPILEPSY.

To the Editors of THE LANCET.

SIRS,—Thinking that comparative medicine may possibly throw some light on the subject of Dr. Alston's article on "Ascarides Lumbricoides" in your issue of the 11th, I beg to draw attention to the fact that epilepsy associated with the presence of ascarides in the intestine is very common in individuals of the canine, feline and porcine species. More frequently observed in the young, adults are by no means exempt. The loss of consciousness is sudden and complete, the convulsive movements well marked and the result often fatal. Diarrhœa is often present, but not invariably. Recovery usually follows expulsion of the worms. In some cases of epilepsy the worms found are few; in some numerous. In a puppy six weeks old I have found 144 large, fully developed ascarides marginatæ; in others of the same litter from six to ten, the whole of the brood having succumbed to epilepsy. Dogs are particularly prone to swallow large, hard, indigestible bodies and to suffer from impacted fæces, but epilepsy, independently of worms, in them is of very rare occurrence. In post-mortem examination of large numbers of dogs suspected (by the uninitiated) of rabies it is very common to meet with the ascaris marginata, and to elicit the information that the dog "died" or "was killed" in a fit. Pigs, and particularly the young, are very subject to epilepsy in association with ascaris suilla in the intestines. The horse is very frequently the host of ascaris megalocephala, but very rarely the subject of epilepsy, though in two instances in my experience their presence has been associated with loss of consciousness and convulsions; in one of these 480 large ascarides were found in the stomach.

I simply offer these clinical facts for record if deemed worthy as bearing on the question.

I am, Sirs, yours obediently,

Royal Veterinary College, London, N.W. JOHN PENBERTHER, F.R.C.V.S., Professor of Surgery, &c.

TIBBITS *v.* ALABASTER AND OTHERS.

To the Editors of THE LANCET.

SIRS,—The conduct of the proprietors of the *Electrical Review* in the above-named case deserves the gratitude of the public and the profession. It is, however, safe to say that the public will not recognise their obligation or offer any return for the sacrifices made on their behalf. The successful defence of a lawsuit occupying the Court three days always involves large expenses beyond the taxed costs recovered. If a fund can be started to assist to reimburse the proprietors of the *Electrical Review* I shall be glad to contribute five guineas. I am, Sirs, yours truly,

Wimpole-street, Feb. 18th, 1893. HENRY SEWILL.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Marsh, Surgeon and J.P.

AT a special meeting of the city magistrates, held on the 17th inst., the following resolution was unanimously adopted: "That the bench of magistrates, in special meeting assembled, desire to place on record their deep sense of the loss which they have sustained by the death of their colleague, Mr. N. K. Marsh, who, though but recently made a magistrate, had during the period since his appointment dealt with the duties allotted to him in an able, conscientious and painstaking manner, and the justices desired to express their sympathy with his family in their sad bereavement."

The Port Sanitary Authority.

No time is being lost by the local sanitary authority in endeavouring to make efficient arrangements for the proper sanitary inspection of all vessels entering the port and for the prompt detection and isolation of any cases of cholera should it be imported here. Advertisements were issued last week for an assistant medical officer, to perform port sanitary duties under the medical officer of health, and for two inspectors. For the former there were fifty-nine applications, and out of these four have been selected—Dr. Francis W. Clark of Newcastle-on-Tyne; Dr. E. P. Manby, South Dispensary; Dr. S. G. Moore; and Dr. P. C. Walker, of the Parkhill Hospital, these last three being all local candidates. There were eighty-one applications for the two inspectorships and six applicants have been selected. At the meeting of the Health Committee on Thursday, Dr. Moore was appointed to the first office.

Small-pox and Vaccination.

At the last meeting of the Select Vestry, which regulates the affairs of the Liverpool parish, a very satisfactory report was made by the Vestry Clerk as to the efficient manner in which the vaccination of infants under three months was carried out, there being only a very small proportion of

the total number of those born in the parish of Liverpool not fully accounted for. It was also stated that so far small-pox had not attacked any vaccinated children, though some of these latter have been exposed to infection. The city of Liverpool is, however, comprised in two other parishes, West Derby and Toxteth Park, where much migration proceeds, and it is satisfactory to know that in both every vigilance is being exercised and every care being taken to isolate all cases of variola appearing in any part of the city, to secure the efficient vaccination of all infants under three months and to encourage the revaccination of all adults. So far the disease has not appeared in a sufficient number of cases to cause any apprehension, and the local resources are so complete as to prompt notification, ample hospital accommodation &c. that there is every reason to hope that Liverpool will be saved from any severe visitation. At the same time the loathsome disease is epidemic at a very short distance, and there must be no relaxation of vigilance till the danger is past.

The Lock Hospital.

The surgeons of the Lock Hospital give clinical lectures every Saturday, at 1 P.M., to the students attending the practice of the Royal Infirmary. The male ward contains some very interesting cases, and students have most favourable opportunities of studying syphilis in all its stages.

February 21st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle Press and Dramatic Carnival.

A VERY laudable effort has been made by the press and dramatists of Newcastle to aid our local medical charities by a carnival and *matinée*. The movement was conceived with ability and carried out with much spirit, resulting in the large sum of £400 being made for the object.

Newcastle Hospital for Consumption and Diseases of the Chest.

At the annual meeting of the Northern Counties Hospital for Diseases of the Chest it was stated that 1316 cases had been treated, an increase over the previous year of nearly 300. The governors complain of want of adequate public support, and the amount received from patients was less than last year.

Durham County Hospital.

The report submitted at the annual meeting of the Durham County Hospital showed that 436 in-patients had been received during the year; the out-patients reached the number of 1136—an increase over last year in both classes. There was a falling-off in the Hospital Saturday and Sunday collections. The expenditure exceeded the income by about £600, this was principally caused by an increase of patients and the disinfection of typhoid fever wards.

The Hartlepools.

Dr. S. Gourley's report as to the health of West Hartlepool is instructive and interesting, accompanied as it is by lucid tables and maps. The portion as to the principal zymotic diseases conveys its own lesson as to small-pox. Dr. Gourley says the first case occurred in a man who had been unloading a steamer with a general cargo from the Continent. He had the disease very mildly, and it was treated for chicken-pox until his child (unvaccinated) took the disease very severely. Next appeared a series of cases from June to December. Dr. Gourley says "people have only themselves to blame for contracting this loathsome disease, as it has been proved beyond question or doubt that efficient vaccination will effectually protect them." Unfortunately a very considerable proportion of the population are not effectually protected even from infancy. The examination of a number of arms plainly shows an absence of efficient marks. Of scarlet fever Dr. Gourley says there was a series of 117 cases, all of a very mild type, as well as of diphtheria. With reference to the latter disease, he says in some cases the houses were damp and dirty, but no special cause was found. Dr. Gourley is a strong advocate for public slaughter-houses, efficient scavenging and inspection, open spaces, and, indeed, all measures likely to improve the sanitary condition of his rising and important borough. Dr. Biggart, the port sanitary medical officer of Hartlepool, says that during the past month four cases of small-pox were admitted to the hospital. He now considers that the town is free from small-pox, but there are eight cases in the hospital. Twenty-four vessels have arrived from cholera-infected ports during the month. Consignments of rags have been inspected.

Small-pox at Carlisle and Tramps.

Last Tuesday the medical officer of health for Carlisle, urging the necessity of adequate hospital accommodation, stated that there was only one more bed for a male small-pox case at the Fever Hospital, and if another case was sent in there could be no means of isolating it. The country was simply swarming with small-pox and paupers. The day before he received notice that eleven tramps were on their way to Carlisle from Penrith, where they had been in contact with a highly infectious small-pox case.

Cumberland Infirmary, Carlisle.

The annual meeting of the governors of the Cumberland Infirmary at Carlisle has been held. The number of in-patients admitted has been 669, which with 72 remaining make a total of 741 cases. The number of out-patients treated during the same period has been 1622. The total income for the past year amounted to £4500; this has only been exceeded once during the previous ten years. The Ladies' Association has given £360 to the funds of the Infirmary.

Stockton Sanitary Authority and Medical Charges.

A question of some interest as to medical charges arose at a late meeting of the Stockton Urban Medical Authority. The medical officer who had to go to London charged four guineas a day and expenses. This charge, it was shown, was not excessive, as the authority did not contract for the medical officer's whole time. The objection, after a discussion, found very little support.

Newcastle-on-Tyne, Feb. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Lectures.

MEMBERS of the Sanitary Institute of London will shortly deliver a series of lectures in Dublin.

The late Deputy-Surgeon-General Gunn.

At a meeting of the Council of the Irish Branch of the British Medical Temperance Association the following resolution was unanimously adopted: "That this Council have learned with deep regret of the death of Deputy-Surgeon-General Gunn, the respected President of this Branch of the British Medical Temperance Association since its formation and an earnest and consistent advocate of its principles. They desire to convey to Mrs. Gunn and the other members of his family their heartfelt sympathy in their bereavement, and feel assured that the remembrance of his truly Christian life and activity will be an abiding source of consolation and of thankfulness to them."

City of Dublin Hospital.

A grand Cosmic Fête and Bazaar will be held in the Royal Dublin Society's buildings, Ball's Bridge, on May 16th and four following days, under distinguished patronage. In order to improve the hospital Lord Pembroke offered £6000 upon two conditions—viz., that the directors should erect a handsome new front to the hospital, and secondly that the remainder of the sum necessary for the purpose should be contributed by the public. The bazaar is promoted in order to obtain the additional funds required.

Rabies in Dundalk.

Rabies has been prevalent in Dundalk, and last week, in pursuance of an order of the Privy Council, the pack of harriers belonging to the 15th Hussars were destroyed. They were twenty-five in number, three having already been destroyed owing to the appearance of rabies.

Cork Union: Cholera Hospital.

Tenders have been invited for the building of the new cholera hospital, in accordance with the plans and specifications approved by the guardians.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Diagnostic Value of Koch's Tuberculin.

THE reactionary symptoms following the introduction into the system of the tuberculous subject of Professor Koch's tuberculin seemed to mark it out as a valuable diagnostic test, although the violence of these sym-

ptoms in some instances necessarily limits its employment for this purpose. In the case of animals this objection does not hold good, and the need of such an infallible test in the cowhouse is amply proved by the startling statement made by M. Nocard at a meeting of the Société des Agriculteurs de France held on the 4th inst. He states that (with the exception of certain French breeds which appear to enjoy immunity from tuberculosis) all the Departments are infested by the disease, the proportion of tuberculous animals reaching to nearly 10 per cent. According to M. Nocard an animal, to all outward appearance healthy, may certainly be pronounced tuberculous when the temperature rapidly rises after an injection of tuberculin. By this means the infected members of the herd may be distinguished and isolated from their healthy fellows, thus saving the latter from all risk of infection. Many cattle-breeders have had recourse to this test and express themselves as highly satisfied with it. It is curious that tuberculosis is much more rife amongst adult animals than amongst calves, about 80 per cent. of the latter escaping, whilst nine-tenths of those affected are adults. The presence of tuberculosis renders the fattening process difficult, stimulates the generative propensities and predisposes to abortion. M. Nocard tells us that incipient tuberculosis, on account of its local character, is no bar to the consumption of the meat, the same remark applying to the milk, provided that secretion be previously boiled. For the disinfection of the cow-house M. Nocard recommends, besides a solution of corrosive sublimate and carbolic acid, a 5 per cent. solution of sulphurous acid.

Green Oysters: Whence the Colouration?

M. Joannès Chatin of the Académie de Médecine has recently conducted some histological researches into the cause of the green colouration presented by certain kinds of oysters—e.g., *marennes vertes*. The green colouration above mentioned is due, it seems, to the presence of azure or greenish-blue pigment in the large cells, or macroblasts, found more particularly at the periphery of the body of the oyster. That these macroblasts are really part and parcel of the oyster and not parasitic unicellular algæ is proved by their presence in white oysters, where their granular protoplasmic contents are free from pigment. Local or mixed tints are thus easily explained by the more or less thorough diffusion of the pigment in the cell body.

The Cholera Epidemic of 1892.

At the last meeting of the Académie de Médecine Professor Proust reviewed the peculiarities and ravages of the recent cholera epidemic which devastated so many countries. The epidemic spread from two centres which were quite distinct. The first epidemic current, originating on April 4th in the suburbs of Paris, took three months to reach the capital, and this despite the free communication between the city and the infected suburbs. From this centre the epidemic radiated to various parts of France, notably the north and the west. The other current, reaching Baku on June 4th from Turkestan *viâ* the Transcaspian Railway, spread with fearful rapidity to the Transcaucasian provinces and the South of Russia, throwing out several expansions, that to Hamburg being the most serious. This Oriental current seems to have been the cause of the appearance of the disease in Germany, England (a few isolated cases), Norway, Denmark, and Italy, and accounts for the greater number of cases occurring in Holland. In the latter country a junction appears to have been effected between the two currents (Parisian and Russian).

Traumatic Phlebitis of the Right Leg with Reflex Œdema of the Left Limb.

M. Ranvier called attention last year to the curious effects caused by the injection into the lymph sac of the frog of a drop of essence of mustard. The corresponding member becomes the seat of intense congestion, whilst in the other leg anæmia is produced. M. Ranvier believes that this and other experiments he has conducted may help to explain certain clinical phenomena met with in practice. The following is apparently an example of the circulation in one leg being reflexly influenced by inflammatory trouble coexisting in the other. A patient who, being seized with cholera during the recent epidemic had been treated by repeated injections of serum into the right internal saphenous vein was, a fortnight later, seized with pain in the right leg along the vein. These pains did not long persist, but they reappeared three weeks later, when he was admitted into Professor Potain's wards with well-marked phlebitis of the right internal saphenous vein, without however any œdema of the leg. Curiously enough the left leg up to the level of the middle of the calf was œdematous, the swelling having suddenly appeared at the time the right limb had become painful. On the left side no pain was complained of, nor was the vein blocked. In four or five days the left leg resumed its normal appearance, whilst the phlebitis on the right side followed its course. The rarity of this phenomenon entitles it to be recorded, and the ephemeral duration of the œdema, and the absence of symptoms of phlegmasia, are fairly confirmatory of the reflex origin of the circulatory trouble that showed itself in the left leg.

Unilateral and Intermittent Exophthalmos.

A patient who has for the space of seven years been the subject of this curious condition was shown by M. Sergent to the Société de Biologie on the 11th inst. When the patient's head is erect the left eye appears more sunken than the right, but directly he leans forward and lowers his head, marked left exophthalmos is produced. The same bulging is seen when the man exerts himself or when the left internal jugular vein is compressed. The exophthalmos is evidently caused by a veinous tumour situated behind the globe of the eye. The excavation of the left orbit noticed in repose is most likely due to the absorption of orbital fat from long-continued pressure of the vascular tumour. Three or four similar cases have been recorded, but this is believed to be the first example in which the diagnosis has been confirmed by the effects of pressure on the internal jugular vein.

The Académie de Médecine.

Balloting for the election of two Foreign Corresponding Members of the Académie de Médecine took place on the 14th inst., the result being as follows:

First election.—Sir Wm. MacCormac...	48	votes	(elected)
Durante (Rome) ...	6	,,	
Esmarch (Kiel) ...	1	,,	
Blank voting-papers ...	2	,,	
Second election.—Tilanus (Amsterdam)	33	,,	(elected)
Durante	11	,,	
Esmarch	2	,,	
Blank voting-papers ...	3	,,	

It is evident that our French *confrères* have not forgotten Sir William Mac Cormac's services in the French ambulances during the war. The majority of votes given to "Sir Cormac," as French journalists will persist in styling him, denotes the esteem in which our compatriot is held by the profession in this country. All the readers of THE LANCET will join me in congratulating Sir William Mac Cormac on the additional but well-merited honour that has been conferred on him.

February 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever Cases on Sewage Farms.

THE discussion of Professor Virchow's speech on the alleged causing of typhoid fever by drain-water was continued by the Berlin Medical Society on the 15th inst. The first speaker was Professor Fürbringer, head physician of the Berlin Hospital at Friedrichshain. He had treated four typhoid fever patients who lived on one of the sewage estates. Two of them who were examined on the point denied having drunk sewage-water. Dr. Paul Guttmann, head physician of the Berlin Hospital at Moabit, discussed the cases referred to by Professor Virchow (typhoid fever cases that occurred on the sewage estates to the north of Berlin in 1891) one by one. He (Dr. Guttmann) came to the conclusion that it was not probable, much less demonstrable, that the cases were due to the alleged cause. He protested against the statement made by Dr. Schaefer at the last meeting that the sewage estates were a source of danger to the adjacent districts. The discussion was concluded by Professor Virchow, who gave an account of the inquiry that had been made by the administration of the sewage estates regarding the cases in question owing to an intimation by Dr. Schaefer. The ascertaining of the relevant details had been rendered very difficult by the circumstance that Dr. Schaefer at first gave only the number but not the names of the patients, and did not comply with the request of the deputation of the

estates for more precise information till a considerable time had elapsed. Sixty cases of typhoid fever had occurred at the time in question in the governmental subdistrict in which the estates were situated, and a considerable number in a neighbouring subdistrict just beyond its boundary. All these cases had been left out of account. The drinking of drain-water was not the only possible cause of typhoid fever. The theory of the importance of the ground in causing such diseases had been largely accepted at certain times and disregarded at others. He himself had maintained the possibility that wells were the source of infection at a time when Pettenkofer had opposed it. Dr. Schaefer's inference was too one-sided. The state of public health on the sewage estates was very good. The irrigation system involved no danger whatever.

The German Veterinary Council.

The seventh general meeting of the German Veterinary Council, consisting of delegates from all the veterinary societies of Germany, was held here on the 17th and 18th instant. The subjects of discussion were foot-and-mouth disease, tuberculosis, swine erysipelas, the influence of veterinary science on the breeding of animals, the training of veterinary surgeons, the diagnostic value of injections of tuberculin and mallein, and the insurance of animals.

Jubilee Celebrations.

The Berlin Medical Society gave a banquet in the Hotel Monopol here on the 17th inst. in honour of five "jubilee doctors." In the seat of honour sat Professor Hirsch, between Professors Virchow and Du Bois-Reymond. On Professor Virchow's left sat Professor Henoch, and two of the others, Dr. Langerhans and Dr. S. Neumann, on Professor Du Bois-Reymond's right. The fifth, Dr. Reich, who looks back on a professional career not of fifty but of sixty years, was unable to be present owing to indisposition. After the "Hoch" for the Emperor, which was proposed by Professor Bergmann, Professor Jolly, dean of the medical faculty, referred to Dr. Reich as an indefatigably active physician, who had till only a few weeks ago delivered lectures and visited hospitals. He alluded to the services rendered by Professors Langerhans and Neumann to the city, and spoke of Professor Henoch as the man who, notwithstanding his hard work as a public teacher, found time for a large consulting practice and prepared a new edition of his text-book almost every year. Turning to Professor Hirsch, he reminded the assembly of the long series of learned researches in science carried out by him.

Herr Charles Liernur, the inventor of the well-known system of city cleansing which bears his name, died here a few days ago.

Dr. Friedrich Plehn has been sent by the German Government to establish a bacteriological laboratory for the study of malaria at the Cameroons.

A congress of the German and Austrian hygienists is to be held in Dresden on the 24th, 25th, and 26th prox. to discuss the prevention of epidemics.

Feb. 20th.

Obituary.

FREDERICK ARCHIBALD GRAY, L.R.C.P. LOND., M.R.C.S. ENG.

MR. GRAY, who had been in general practice for many years at Ottery St. Mary, Devon, succumbed on Saturday, Feb. 4th, to an illness of a peculiarly distressing character, and his death affords yet another instance of a professional man losing his life from one of the accidents to which a surgeon is liable. On the afternoon of Jan. 2nd Mr. Gray was dressing a post-scarlatinal abscess which had formed on the head of a child, and inoculated a small cut or abrasion on his finger with septic matter. Within twenty-four hours symptoms of septic absorption manifested themselves. It was for a time hoped that the disease would confine itself to the right arm and axilla, but subsequently general septicæmia set in, and in spite of the constant attention of several of his neighbouring brother practitioners, and the most devoted nursing on the part of his wife, he passed away after a little more than four weeks' illness. He leaves a widow and four children.

Mr. Gray was born at Exeter on May 13th, 1851, and was therefore in his forty-second year. He received his general education at Plymouth Grammar School and passed his professional studentship at University College, London, qualifying as M.R.C.S. Eng. in 1872 and L.R.C.P. Lond. the following year. Following this he was house physician at the Seamen's Hospital, Greenwich, and on leaving this post took an assistantship at Honiton, Devon. He then obtained the medical officership of the fourth district of the Honiton Union and settled at Ottery St. Mary, where he has practised up to the time of his death. Besides holding the above appointment he was medical officer of health for Ottery St. Mary and Honiton rural district, medical superintendent of Ottery Cottage Hospital and has been an occasional contributor to medical literature. He was also surgeon-major in the 3rd V.B. Devon Regiment, and within the last two or three years formed and instructed an ambulance corps, which has been much praised for its smartness and efficiency. Mr. Gray was well known in local Masonic circles. Personally he was widely respected and his death will be greatly mourned by a large circle of patients and friends.

ALESSANDRO CECCARELLI, M.D.

QUITE an historical figure passed away in the early morning of Saturday, the 18th inst., when Dr. Alessandro Ceccarelli, the "Archiatro Pontificio," or consultant-in-chief to the Pope, breathed his last. Since the preceding Monday he had been ailing—seriously enough to put himself under the care of his junior at the Vatican, Professor Lapponi. The symptoms rapidly assumed a grave character and Professors Bertini and Piccirilli were called in. By this time his strength had manifestly run down and the diagnosis of "paralisi intestinale" placed his recovery beyond hope. He retained consciousness enough to receive the last benediction of the Holy Father and to return the affectionate farewell of his son and son-in-law, who had been summoned from a distance to his deathbed. Alessandro Ceccarelli was born in Rome on March 11th, 1830, and after the usual literary course entered on the study of medicine at the University there. His curriculum was a brilliant one, and his early devotion to clinical observation and research, particularly in surgery, showed the professional department for which inclination and talent alike fitted him. He was sedulous in his attendance at the hospitals, making theoretical reading his business in the morning or evening, but not in "the heart of the day." From Rome he proceeded to Paris, and there pursued his clinical training under the best physicians and surgeons of that school. As an operator he became especially proficient—"an artist with the knife" he was often called; whilst his diagnosis was rarely at fault, based as it was on a circumspect consideration—medical as well as surgical—of all the symptoms. On his return to Rome he settled in practice and rose to the front rank of consultants, while attracting the notice of Pope Pius IX. for his interest in hospital management and his concern for the accommodation and treatment of the sick poor. In the terrible cholera visitation of 1866–67 he distinguished himself by his fearless intervention on behalf of those stricken, particularly of the less favoured class, insomuch that he himself contracted the disease in its worst form and recovered from it with such difficulty that, physically speaking, he was never the same man afterwards.

In 1874, by the advice of Monsignor de Merode, Pius IX. appointed him "Archiatro Pontificio," a post which he held during the remaining years of that pontiff and which he continued to hold under Pius's successor, Leo XIII. He discharged its many responsibilities with a diplomatic as well as a professional skill, which earned him the praise not only of the Catholic faithful, but of all who in any capacity were allowed to approach the *vie intime* of the Vatican—praise which he not less honourably deserved than any of his distinguished predecessors in office—a Lancisi, for example, or a Viale-Prelà. He travelled much, and visited periodically the best of the continental schools, particularly Paris and Vienna, numbering amongst his friends and admirers Nélaton at the former and Billroth at the latter city. He dedicated all the proficiency he thus acquired to his august patient, insomuch that the prolonged life of Pius IX.—prolonged beyond the years of any predecessor in the Holy See, even beyond those of St. Peter himself—was universally ascribed to his loyal attendance and well-inspired treatment. He was an enthusiastic Catholic, as, indeed, his whole career attests. He entered the sanitary corps of the Pontifical army on July 21st, 1860, and in little more than a year rose from the rank of "Chirurgo Maggiore

Provvisorio" to that of "Chirurgo Maggiore," succeeding the eminent Dr. Giuseppe Costantini in the latter post. In the campaign of 1860, which ended so disastrously for the Apostolic arms, he rendered great service under fire at Castelfidardo and in hospital, and again in 1867, when a fickle gleam of success smiled on the same cause, he did his duty at Mentana with equal impartiality and skill to the Garibaldian and Pontifical wounded. On the fall of the Temporal Power on Sept. 20th, 1870, he was conspicuous in his medical care of the wounded on that memorable day, after which he retired into private life, resisting all overtures from the Italian Government to accept office under it, and throwing off his reserve only to become a municipal councillor and to serve as best he could in the clerical interest in the Capitol. Such were the main incidents of his life till he became—as we have seen—chief body physician to the Pope in 1874. He continued down to his latest day his active interest in hospital construction and management. The "Ospedale di Gesù Bambino" for poor children owes much to him; in the military hospitals and ambulances of the Pontifical army, on which he had previously lavished such care, he amassed an experience which he devoted to the ambulance trains of the Order of Malta and also, during the cholera visitation of 1884, to the Vatican Lazzaretto promoted under the auspices and the eye of Leo XIII. He possessed many honours and decorations in testimony of his philanthropic activity and scientific distinction. Amongst these we may mention the Order of St. Gregory the Great and the Pian Order, to say nothing of the military medals for services rendered in the campaigns of 1860 and 1867.

Dr. Ceccarelli was buried in the church of San Teodoro under the Palatine, with the sole intervention of the Confraternità dei Sacconi, to which he belonged. A funeral mass was celebrated in the same church in presence of a vast concourse of mourners, many of the pilgrims, British and American, now in Rome being conspicuous amongst them. He was too busy a man to write, still less to publish, much; though his presence at the meetings and congresses of the profession on the rare occasions when he could find time to attend them was always prized for the knowledge and acuteness he brought to the discussions. He was, however, active in other ways, having contributed to the "Armamentarium Chirurgicum" a number of new instruments or improvements on those already in use. Some of these will be on view in the "Esposizione" now in preparation for the International Medical Congress to be held in September next, including his well-known "sega osteotomà" (saw for resection), much employed in Italy for operations in the osseous diseases of children.

DR. LAMBERTO PARAVICINI.

THE Lombard school has lost an able surgeon, an effective teacher, and a noble character in Dr. Lamberto Paravicini. A native of the Valteline, he was born to scanty means, and immediately after graduation he entered on the career of a country practitioner. He distinguished himself by his courage and skill in the cholera epidemic of 1854-5, and having honourably earned a little money he devoted it to professional visits to the chief cliniques of Germany and France. In Paris he attracted the attention and won the esteem of Velpeau, Chassaignac, Maisonneuve and Marjolin. Returning from this tour with enlarged ideas and enhanced dexterity, he found a field adequate to his abilities in the hospital of St. Maria di Loreto, improvised at Milan as soon as the victory of Magenta had cleared the Austrians out of Lombardy. Here his brilliant powers in diagnosis and treatment came under the appreciative notice of the army surgeons, Colonel Arena and Dr. Riberi, and by the aid of the latter he was promoted to the chair of Propedeutica Chirurgica in the University of Pavia. In this post he made special studies in comparative surgery and, in the words of Professor Bottini, "gave a complete scientific and technical aspect to subperiosteal operations—such as subperiosteal endo-oral resection of the mandible, which Vidal de Cassis had declared impossible—and to the cure of urethral strictures, opposing the rational method of eccentric dilatation to the paradox of cauterisation." As a clinical expositor Paravicini had few equals for lucidity, exactitude, method and literary style. "His special characteristic," says Professor Bottini, "was this: Having grasped an idea, however confused in its transmission, he could rearrange and set it forth with such clearness as to bring it down to the comprehension of his humblest auditor." As a public character his career was distinguished by remarkable self-abnegation and disinterestedness. Having transformed the Spedale Maggiore of Milan (of which he was administrative counsellor) into a centre of professional culture and qualification, he invited to its chairs Cantani, Quaglino, Albertini and Visconti, and, equally self-forgetting, when he was offered the professorship of clinical surgery he declined it, replying that it was open to all the clinical surgeons of Italy except himself. At his death he held the post of Emeritus Professor of Surgery in the University of Pavia, at which an eloquent tribute has just been paid to his memory by Professor Bottini, whose memoir on the "Surgical Cure of Cavernous Angioma of the Cheek" the readers of THE LANCET (Sept. 20th, 1890) are not likely to have forgotten.

K. D. GHOSE, M.D. ABERD., M.R.C.S. ENG.

WE are sorry to record the death of Dr. K. D. Ghose at Khulna in Bengal, of which place he was the civil medical officer. Dr. Ghose was an Indian of high caste, who studied medicine at the Calcutta Medical College and obtained the degree of L.M.S. of the Calcutta University. He was a distinguished student of his time, and after qualification was enrolled as an assistant surgeon in the Bengal Service. He was a house physician to the Medical College and was afterwards placed in charge of the dispensary at Bhagulpore in Bengal. He then came to England and obtained the degree of M.D. at Aberdeen and membership of the Royal College of Surgeons. On his return to India he was appointed civil medical officer of Rungpore in Bengal, where he was highly esteemed. In sanitary matters Dr. Ghose was very keen, and to him is due the credit of the Rungpore drainage, which has made that place a healthy station He was the author of a book in Bengalee on eye diseases. His lecture on the sanitary outlook in Bengal befroe the Bethum Society attracted much attention. He also held the office of Deputy Sanitary Commissioner of Bengal for one year. In the district of Khulna where he died, a largely attended meeting was held at which subscriptions were raised for a fitting memorial to him. He has three sons now in England, one of whom successfully passed the Indian Civil Service Examination two years ago. Dr. A. Mitra, chief medical officer of Kashmir, whose name appeared on the New Year's honours list on Jan. 1st as recipient of the title of "Rai Bahadur," is Dr. Ghose's nephew. The career of Dr. Ghose shows what good our Indian fellow subjects can do to their country under proper training and education, especially in the department of medicine.

BENJAMIN CARRINGTON, M.D. EDIN., F.R.S.

DR. B. CARRINGTON, who died at Brighton on Jan. 18th, was late medical officer of health, Barton-on-Irwell, Eccles, and for many years President of the Manchester Cryptogamic Society. He was a botanist of no mean order and the result of his studies was the formation of a most valuable collection of cryptogamic specimens which was purchased some time ago by the Owens College, Manchester. Whilst in Edinburgh he made a collection of grasses upon which he wrote a very interesting monograph. He also wrote a work on Irish Cryptogams and an account of the cryptogamic portion of the flora of the West Riding of Yorkshire. Perhaps his best work of late years is "Hepaticæ Britannicæ Exsic," which he conjointly published with Mr. W. H. Pearson.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on the 17th inst. the following medical degrees were conferred:—

Doctors of Medicine.—Edmund Cantley, King's; Arthur Sneyd Taylor, Pembroke; Robert Boxall, Downing.

Bachelors of Medicine and Surgery.—Arthur George Harvey, St. John's; Geoffrey Ward Thompson, Christ's; Edwin Chas. Palmer, George Percy Shuter, Downing.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—At the Conjoint Examinations for the diploma in State Medicine, held in Febuary, the following candidates passed:—

R. H. Lemon, M.R.C.S., L.R.C.P. Lond.; W. M. Hamilton, M.D. R.U.I.; Surgeon-Captain W. H. B. Robinson, L.R.C.P. & S. I.; Chas. H. Wheeler, M.D., Q.U.I.

NEW ZEALAND.—Dr. Alfred Wright, of Westport, has been appointed by His Excellency the Governor a justice of the peace for the colony.

MEDICAL MAGISTRATE.—Mr. Henry J. Knight, M.R.C.S., Rotherham, has been placed on the commission of the peace for that borough.

MR. J. C. DAVIES, L.R.C.P.Lond., M.R.C.S., L.S.A., has been appointed deputy coroner for the Wrexham district of Denbighshire.

FOOTBALL CASUALTIES.—On the 11th inst., at Nether Street, Hertford, in a match between Hertingfordbury and Ware, a player fractured his clavicle. On Saturday last, during a match between the Huyton Quarry Church and Norries School teams, a member of the former team fractured his right leg.

STATUE OF DR. MARION SIMS.—The efforts of the friends of Dr. Sims to erect a statue to his memory in New York are about to be crowned with success. The sculptor is Von Miller of Munich and it is stated that he has not only succeeded in making a life-like picture of the distinguished gynæcologist, but has given an artistic grace to the pose which will challenge criticism. The pedestal will be of granite, eight feet in height; and the statue is in bronze, nine feet in height.

BRADFORD EYE AND EAR HOSPITAL.—The thirty-sixth annual meeting of the subscribers was held on Feb. 17th. The report showed that the number of new patients admitted by transfers or renewals, was 4419, of whom 2401 were from places beyond the town. The number of in-patients was 471. The average stay of each in the hospital was 16·7 days. Of the operations 56 were cases of extraction of cataract in old persons. These make a total of 398 consecutive extractions of senile cataract without one case being followed by suppuration. The income for the year was £2151 16*s.* 8*d.* The expenditure was £2475 8*s.* 2*d.* The invested funds amount to £12,000.

ROYAL FREE HOSPITAL.—The annual meeting of this charity was held on Thursday, the 23rd inst. The report presented on this occasion showed a serious diminution in one item of the receipts of the institution during the past year. This item was returned in the balance sheet for 1890 as £2255, in the following year it fell to £1779, whilst last year there was a still further reduction, and it reached only £1491. Fortunately the amount of legacies received in 1892 was above the average of the three years in question. But the state of the finances of the institution as a whole has caused the governors to make an appeal, signed by the President, Lord Dufferin, to the friends and supporters of the charity for help in the present emergency. The assistance required is the more urgent in view of the imperative necessity of rebuilding the front of the hospital. It is to be hoped the appeal will meet with an adequate response.

BRISTOL GENERAL HOSPITAL.—A meeting of the election committee of this institution was held on Wednesday, Mr. J. S Fry presiding. The chairman announced with regret the resignation of Mr. N. C. Dobson, as a surgeon of the hospital, after a connexion with the institution of over a quarter of a century. He concluded by proposing Mr. Dobson's election as one of the honorary and consulting surgeons. This was seconded by Dr. Lansdown and agreed to unanimously, and Mr. Dobson acknowledged the compliment. Mr. W. M. Barclay was appointed to the vacancy on the surgical staff without opposition, but for the position of assistant surgeon, which he has hitherto held, there were three applicants—Messrs. C. A. Morton, G. Poole Lansdown, and Macleod, all of Clifton. The first-named was elected, receiving twenty votes, while fourteen were cast for Mr. Lansdown.

NOTES IN PARLIAMENT.

Swine Fever.

A BILL has been introduced and influentially backed to extend the provisions of the Contagious Diseases (Animals) Acts to cases both actual and suspected of swine fever. Its promoters hope in this way to stamp out a disease which has become widely prevalent in recent years.

Hop Substitutes.

The crusade against hop substitutes is resumed in Parliament this session. Several members, representing in most part agricultural constituencies, have framed "a Bill to regulate and restrict the use of hop substitutes." This measure provides that all brewers who have recourse to them and all sellers of beer in the manufacture of which they are used, shall put up a notice in a conspicuous place outside their premises with the words "Hop substitutes used."

Fire Inquests.

A Bill has been brought in by Mr. Brookfield, Mr. Noble, Mr. Darling, Mr. Pierpoint and Mr. Griffith Boscawen, to provide for the holding of a coroner's inquiry into the cause and circumstances connected with fires, the means of preventing the same, and cases of loss or injury resulting therefrom. The order of procedure with regard to such inquest is to be similar to that adopted in case of sudden or violent death. All fees and allowances due to the coroner are to be paid in the same manner out of the same fund, and by the same authority as in the case of a dead body. The Act is not to extend to the City of London.

National Leprosy Fund.

In the House of Commons, on the 16th inst., Mr. G. Russell, in answer to a question by Mr. Caine, said it was understood that the committee of the National Leprosy Fund would publish the report of the Commission as early as possible in the spring.

Grocers' Licences.

These licences, properly so-called, said the Chancellor of the Exchequer in reply to a question, are levied only in Scotland and Ireland. In England the licences to grocers are not distinguished from other licences for the retail of beer, spirits and wines issued to retailers who are not publicans. The receipts from those licences for the last five years have varied from £116,947 in 1887-8 to £123,685 in 1891-2. He thought his intention with regard to these licences would be more properly explained when he introduced the Bill for the appropriation of the Excise revenues.

The Use of Whitelead in Factories.

On the 17th Mr. Asquith, in reply to a question put by Mr. McNeill, said the use of whitelead in factories with the mortality and ill health resulting therefrom, had for some time engaged his attention; but as the facts required further elucidation, he had, with the cooperation of the Labour Department of the Board of Trade, arranged for an exhaustive inquiry to be made into the subject both in its industrial and sanitary aspects.

Repeated Prosecutions for Non-vaccination.

Mr. Hopwood, in calling attention to the case of a man who had been three times imprisoned for not having his children vaccinated, elicited from Mr. Asquith the reply that he had communicated with the committing justices in order to be furnished with a report of the circumstances of the case. Meanwhile he expressed his great regret that repeated prosecutions and imprisonments should be necessary for an offence which is in substance a single infraction of the law, and he proposed shortly to introduce a Bill to make such repeated punishments impossible.

The Report of the Vaccination Commission.

Mr. Fowler stated that, according to the information he had received, the fourth report of the Commission will be issued about the end of March. The delay has been caused by the necessity of including in it very voluminous appendices.

Uninhabitable Houses in Kensington.

On the 20th inst. Mr. H. Fowler, in reply to a question put by Mr. J. Wilson, said that the vestry of Kensington, on the representation of the medical officer of health, had decided to take proceedings against the owners of twenty-four houses in James-street with the view of closing those houses, and that the vestry have under consideration the preparation of a scheme for the improvement of that area. When that scheme shall have been submitted to the Local Government Board a local inquiry will be directed.

Cholera at Murree.

In reference to this outbreak, Mr. G. Balfour put a question to the Under-Secretary for India, and Sir E. Grey (in the absence of Mr. G. Russell) replied that the Government of India were inquiring into the matter and would furnish information as soon as possible.

Medical Aid Associations.

Mr. Labouchere asked if the General Medical Council had legal power to strike off the name of a registered medical practitioner who held office under a friendly society's medical aid association. Mr. Acland replied that the General Medical Council had power to strike off the Register the name of any registered practitioner whom they may judge, after due inquiry, to have been guilty of infamous conduct in any professional respect. The Council had informed him (Mr. Acland) that they had appointed a committee of their own body to inquire into various allegations made in respect of what are called Medical Aid Associations, and the report of that committee would probably be ready some time in May. Until that time shall have arrived, any expression of opinion on the conduct of medical men in relation to those associations or any legislation which might be contemplated in reference to them would be premature.

Medical Assistance for Paupers.

On the 21st a question was put by Mr. Weir on this subject, to which Sir G. Trevelyan replied that a Government grant of £20,000 is provided for pauper medical attendance, and in order to participate in this grant the Board of Supervision require each parish to appoint a salaried medical officer, whose duties are clearly laid down. The parishes of Lewis are thus supplied, and no complaint had hitherto been made of insufficient medical attendance on paupers in those parishes.

The Infectious Hospitals Bill.

Lord Thring has put down this Bill for second reading on Tuesday, March 28th.

The Regulation of Common Lodging-houses.

A Bill has been prepared by Sir Francis Powell, Chairman of the Police and Sanitary Regulations Committee, to amend the Public Health Acts with respect to the regulation of common lodging-houses. *Inter alia* it gives the sanitary authority discretion to refuse to register a lodging-house keeper about whose character or fitness for the position it may be in doubt, and imposes on all lodging-house keepers or

their deputies the obligation of providing proper control of their houses. The Bill also insists that every common lodging-house, whether registered before or after its passing, shall have certain sanitary conveniences. Another clause gives the Court power to cancel the registration in case of conviction. Amongst the names on the back of the Bill is that of Dr. Farquharson.

The Visitation of Paupers.

In the House of Commons, on Thursday, Feb 23rd, Mr. Henry Fowler, President of the Local Government Board, said, in reply to Mr. Charles Hobhouse, that he was not prepared to send a circular to the boards of guardians throughout the country instructing them to permit visits to pauper inmates of workhouses to take place on at least five days of the week, but wherever he was informed that boards of guardians had imposed undue restrictions upon the visitation of inmates the matter would receive due consideration from him.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDERSON, JAMES, M.D. Aberd., F.R.C.P. Lond., has been appointed a Physician for Out-patients to the National Hospital for the Paralysed and Epileptic, Bloomsbury, vice Gowers.

ASHBY, R. D., L.D.S., R.C.S., has been appointed Honorary Consulting Dental Surgeon to the Royal Northern Sea Bathing Infirmary, Scarborough.

BERRY, A. E., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Monsall Fever Hospital, vice Dr. Johnstone.

BRISTOWE, J. S. M.D., F.R.C.P. Lond., M.R.C.S., has been appointed Consulting Physician to the Victoria Hospital, Chelsea.

CLARK, W. F., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health, Cheshunt.

COLLINGS, E. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Workhouse, Barnsley Union, vice Horne, resigned.

CONSTANT, F. E., L.R.C.P. Lond., M.R.C.S., L.D.S., has been appointed Honorary Consulting Dental Surgeon to the Royal Northern Sea-bathing Infirmary, Scarborough.

COOKE, R. T. E. B., F.R.C.S., L.R.C.P. Edin., M.R.C.S., has been appointed Consulting Medical Officer to the Royal Northern Sea Bathing Infirmary, Scarborough.

CUFF, R., M.B. Lond., M.R.C.S., has been appointed Medical Officer to the Royal Northern Sea Bathing Infirmary, Scarborough, vice Hutchinson.

DAY, F. W. LANGSTON, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fifth District of the Hitchin Union.

FORBES, N. HAY, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Tunbridge Wells Borough Fire Brigade.

GOWERS, W. R., M.D., F.R.C.P. Lond., M.R.C.S., has been appointed an Extra Physician to the National Hospital for the Paralysed and Epileptic, Bloomsbury.

GRIFFITHS, A. M. B., C.M. Edin., has been appointed Parochial Medical Officer under the Parochial Board for the burgh of Falkirk, vice Peake, resigned.

HOPE, G. J. B., M.B., M.S. Edin., has been appointed Medical Officer for the Hutton Buscel Sanitary District of the Scarborough Union, vice Henderson, resigned.

NICHOLLS, J. M., L.R.C.P. Lond., M.R.C.S., has been reappointed Honorary Medical Officer of Health, St. Ives (Cornwall) Urban Sanitary Authority.

PIERSE, G. J., M.D., B.Ch. Irel., has been appointed Medical Officer to the Ballyduff Dispensary District, County Kerry.

ROWLAND, J. T., M.D St. And., M.R.C.S., has been reappointed Medical Officer of Health for the Urban Sanitary District of Richmond, Surrey.

TAYLOR, JAMES, M.D. Edin., M.S., has been appointed an Assistant Physician to the National Hospital for the Paralysed and Epileptic, Bloomsbury, vice Anderson.

TAYLOR, W. C. E., F.R.C.P. Edin., M.R.C.S., has been appointed Consulting Medical Officer to the Royal Northern Sea-Bathing Infirmary, Scarborough, vice J. W. Taylor.

TETLEY, F. H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Rural Sanitary District of the Wangford Union, vice Garneys, deceased.

WATSON, J. K., M.B., C.M. Edin., has been appointed House Surgeon to the Morpeth Dispensary.

WORSLEY, REGINALD C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Iver Sanitary District of the Eton Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRISTOL DISPENSARY, Castle Green.—Vacancy in the Medical Staff.

CANCER HOSPITAL (FREE) Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Board and residence, and allowance for washing provided. (Apply to the Secretary, 24, Finsbury-circus, E.C.)

COUNTY LUNATIC ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer. Salary £100 per annum, with apartments, board and washing.

HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £40 per annum, with board, lodging and washing.

ITALIAN HOSPITAL, Queen-square, Bloomsbury.—Honorary Physician for Out-patients. (Apply to the Hon. Secretary, 8, Austin-friars, London.)

KING'S COLLEGE, London.—Professorships of Botany and Vegetable Physiology.

KNIGHTON UNION.—Medical Officer for the district of Presteigne. Salary £40 per annum, exclusive of midwifery and extra medical fees. (Apply to the Clerk to the Guardians, Knighton, Radnorshire.)

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Junior House Surgeon, for six months.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £150 per annum, with rooms and attendance.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN, Marylebone-road, N.W.—Physician to the Out Department.

PARISH OF ST. LEONARD, Shoreditch.—Second Assistant Medical Officer for the Infirmary, Hoxton-street, N., for six months. Salary £40 per annum, with rations, furnished apartments and washing in the Infirmary. (Apply to the Medical Officer, 204, Hoxton-street, London, N.)

STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House Surgeon and Secretary, for two years. Salary £100 a year, with board, lodging and washing.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.—Assistant Physician.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Obstetric Physician.

ST. PANCRAS PARISH.—Dispenser for the Workhouse. Salary £110 per annum, rising by £5 annually to £120, with dinner daily. (Apply to the Clerk, Vestry Hall, Pancras-road, N.W.)

THE YORKSHIRE COLLEGE, Leeds.—Demonstrator of Anatomy.

YORK COUNTY HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, apartments and washing.

YORK DISPENSARY.—Resident Medical Officer. Salary £150 a year, with furnished apartments, coals and gas.

Births, Marriages and Deaths.

BIRTHS.

GRAY.—On the 20th inst., at Prescot-road, St. Helens, the wife of Andrew Gray, M.D., of a son.

LIEBSTEIN.—On Feb 14th, at Hartford, Cheshire, the wife of Herman J. Liebstein, M.D., of a son.

MAC COMBIE.—On Feb. 17th, at The Hospital, Hatfield-street, Newcross, S.E., the wife of Dr. John Mac Combie, of a son.

MORTON.—On Feb. 20th, at Church-green East, Redditch, the wife of Edwin Morton, M.D., of a son.

MARRIAGES.

BRAZIER—MYERS.—On Jan. 12th, 1893, at H.B.M.'s Consulate, Takow, South Formosa, by the Rev. Wm. Thow, M.A. Aberd., J. Russell Brazier, of the Imperial Chinese Customs Service, eldest son of the late Jas. S. Brazier, F.C.S., Emeritus Professor of Chemistry in the University of Aberdeen, to Helen, eldest daughter of W. Wykeham Myers, M.B. &c.

HESSEY—FERGUSON.—On Feb. 14th, at Christ Church, Brondesbury, N.W., by the Rev R. F. Hessey, M.A., Vicar of Basing and Rural Dean (father of the bridegroom,) assisted by the Rev. C. Dale Williams, M.A., Rector of Christ Church, and the Rev. W. G. Whinfield, B.A., Mus. Bac., of the Parish Church, Eastbourne, James Dodson Hessey, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., of 85, High-street, Hastings, to Jane Imray (Jeanie), eldest daughter of the late Wm. Ferguson of Leeds.

SHEARER—GRANDAGE.—On Jan 31st, at the Parish Church, Bradford, by the Rev. Canon Bardsley, D.D., Donald F. Shearer, M.B. Oxon., F.R.C.S., Woodside, Anerley-road, Upper Norwood, second son of the Rev. Professor Shearer, M.A., United College, Bradford, to Jean, third daughter of William Grandage, Clifford House, Bradford.

STOCKEN—FRENCH.—On Feb. 11th, at Holy Trinity Church, Lyonsdown, Barnet, Leslie Maury Stocken, M.R.C.S., L.R.C.P., L.D.S., of Winchester House, Ealing to Ida Georgina, youngest daughter of the late John French, Hartham House, New Barnet.

DEATHS.

BOYD.—On Feb 17th, at 273, Lavender-hill, London, Joseph Thomas Boyd, aged 36.

CHABOT.—On Feb. 22nd, Edwin Chabot, M.R.C.S., of Linden Lodge, Linden-grove, Peckham-rye, in his 78th year.

SHERWOOD.—At Prospect-hill, Whitby, Yorkshire, Eleazar Sherwood, M.D. Born May 9th, 1824, died Feb. 22nd, 1893.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

Medical Diary for the ensuing Week.

Monday, February 27.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. W. Lang: Corneal and Sclerotic Affections.—101, Gt. Russell-st.: 8 P.M., Dr. Galloway: Certain Considerations concerning Tumours. Parkes Museum (Margaret-st., W.): 3.30 P.M., Dr. Parkes: Hospitals.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (Charing-cross Hospital Medical School).—4.30 P.M. Mr. Eichholz: The Morphology of the Limb Arteries in Mammals, with special reference to the Anomalies presented by the Human Limb Arteries.—Prof. Windle: The Myology of the Anencephalous Fœtus.—Mr. J. Jackson Clarke: The Anatomy of the Temporal Bone in Childhood.

THROAT HOSPITAL (Golden-sq.).—5 P.M. Dr. R. Norris Wolfenden: Treatment of Atrophic Rhinitis, &c.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. The President: A Leprosy Patient in Course of Recovery.—Dr. de Havilland Hall and Mr. Goodsall: Stricture of Rectum with Pleuritic Effusion; Thirteen Tappings; subsequent Left Iliac Colotomy.—Mr. Edmund Owen: An Infant after Resection of both Shoulder-joints for Acute Epiphysitis. Dr. E. Cautley: Chronic Enlargement of Spleen in a Young Woman. Mr. Stephen Paget: Cured Meningocele.—Mr. P. Abraham: A probable Syphilide refractory to Treatment.—Mr. Marmaduke Sheild: (1) Congenital Warty Growths of the Hand and Foot; (2) A case for Diagnosis. Cases shown also by Dr. S. Coupland, Mr. J. H. Morgan and Mr. P. Gould.

Tuesday, February 28.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Prof. V. Horsley: The Brain.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Dr. Payne: Vegetable Parasitic Diseases.—Bethlem Hospital: 2 P.M., Dr. Percy Smith: Moral Insanity.—101, Gt. Russell-st.: 8 P.M., Dr. Herman: Treatment of Placenta Prævia.

ROYAL COLLEGE OF PHYSICIANS (Theatre of the Laboratories, Examination Hall, Victoria Embankment).—5 P.M. Dr. B. A. Whitelegge: Changes of Type in Epidemic Disease. (Milroy Lecture.)

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. Walter Rivington: Some cases of Fracture of Long Bones from Slight Causes in connexion with Tabes Dorsalis, Syphilis and Paraplegia.—Mr. Thomas Bryant: Case of Fibrous Polypus of the Prostatic Portion of the Urethra, associated with Profuse Hæmaturia and Prostatic Enlargement; Removal of the Growth and Recovery.

Wednesday, March 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Lesions of Pulmonary Phthisis.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. Q. Silcock: Myopia.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—5 P.M. Annual Meeting. Address by the President (Sir Andrew Clark).

THROAT HOSPITAL (Golden-sq.).—5 P.M. Dr. Greville MacDonald: Ethmoiditis and Suppuration of Nose.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens by Dr. MacLean, Dr. Herbert Spencer and others. President's (Dr. Herman) Inaugural Address. Mr. Alban Doran: Ligature of the Pedicle in Ovariotomy.

Thursday, March 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Prof. Patrick Geddes: The Factors of Organic Evolution.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Colman: Tuberculosis.—National Hospital for the Paralysed and Epileptic: 2 P.M., Mr. V. Horsley: Surgical Treatment of Nervous Diseases.—London Throat Hospital (Gt. Portland-st.): 8 P.M., Dr. Woakes: Tinnitus and Vertigo.—Central London Sick Asylum: 5.30 P.M., Mr. John Hopkins: Cases in the Wards.

CENTRAL LONDON THROAT AND EAR HOSPITAL.—5 P.M. Dr. Dundas Grant: Diseases of Auditory Nerve and Centre; Deaf-mutism.

ROYAL COLLEGE OF PHYSICIANS (Theatre of the Laboratories, Examination Hall, Victoria Embankment).—5 P.M. Dr. B. A. Whitelegge: Changes of Type in Epidemic Disease. (Milroy Lecture.)

LONDON SKIN HOSPITAL (40, Fitzroy-sq., W.).—8 P.M. Mr. Augustus Harbord: Syphilodermia.

HARVEIAN SOCIETY.—8.30 P.M. Dr. William Hunter: Pernicious Anæmia, with special reference to Diagnosis and Treatment.

Friday, March 3.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

CANCER HOSPITAL (Fulham-road, S.W.).—4 P.M. Dr. F. A. Purcell: Treatment of Cancer of the Rectum.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. R. Maguire: Congenital Heart Disease.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Erysipelas and Suppuration (Streptococci).

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital).—8.30 P.M. Clinical Meeting. The President (Mr. Swinford Edwards): (1) A Peculiar Affection of Mucous Membrane of Palate; (2) Two cases of Successful Wiring of Patella.—Dr. Abraham: Nodular Leprosy. Mr. L. A. Bidwell: (1) Compound Comminuted Fracture of Humerus; (2) Epithelial Crypts of the Palm.—Dr. Clippingdale: Epithelial Hypertrophies of Skin.—Mr. Percy Dunn: Symmetrical Coloboma of Iris and Choroid.—Mr. C. B. Keetley: Tumour of Muscles of Forearm.—Mr. R. Lake: Tuberculous Pharyngitis. And others.

Saturday, March 4.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Theo. Hyslop: Insanity with Syphilis.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

A TOO INDESTRUCTIBLE BANDAGE.

DR. ENRIQUE SLOCKER, a professor in the Valencia Medical School, relates in a Spanish medical journal a somewhat strange case where a man had fastened a large iron ring upon himself in such a manner that it was almost impossible to remove it. The patient was a middle-aged man who suffered from erythema intertrigo, and who, i

order to prevent friction, kept some damp clay and some rags applied to the parts by means of a bandage. One day whilst out in the fields he had the misfortune to lose his bandage, and in order to some extent to make up for its loss the idea struck him to make use of a large iron ring that he happened to come across. With some little difficulty he managed to get the whole of his external genitals, together with the dressings, through this ring. All seemed satisfactory enough for the first couple of hours, but then the obstruction to the circulation caused the parts to become swollen and œdematous, and the ring becoming imbedded in the soft tissues gave rise to a great deal of pain. When he applied to Dr. Slocker shortly afterwards the condition of matters was beginning to be serious, and there was reason to fear that gangrene would supervene. The utmost difficulty was experienced in removing the ring, which was of wrought iron and more than a quarter of an inch in thickness. The patient was placed in the lithotomy position, and a slip of zinc having been with difficulty insinuated between the skin of the scrotum and the ring, attempts were made to cut through the latter by means of a fine hand saw. These attempts proving fruitless, the services of a locksmith were obtained and, two assistants holding the ring as firmly as possible with pincers, it was filed through in about an hour. The ring was then rotated so that the opening should lie against the dorsum of the penis, and the circumference was filed through again in front of the scrotum, so that the ring was cut into two halves. It might be expected that the work was now accomplished; but this was by no means the case, as it was only with the utmost difficulty that the two semicircles could be separated from one another, so deeply were they imbedded in the skin. Ultimately, however, this was accomplished and the patient was freed from his iron bandage. The parts were dressed antiseptically and in a very few days the man was discharged.

Mr. James T. T. Ramsay.—The handbill sent us is, perhaps, best treated with contempt. If a community has not self-respect enough to prevent itself from falling a victim to such representations, it will not be likely to be influenced by our censure. It is another question when registered medical men issue such things.

"LEGAL RESPONSIBILITY FOR ILLNESS CONTRACTED IN INSANITARY HOUSES."

To the Editors of THE LANCET.

SIRS,—With reference to the question put by your correspondent, Mr. W. J. Smith, in THE LANCET of Feb. 4th, as to any legal redress on the part of the tenant from the owner of the house, and your comment as to the terms of the agreement on which the house was taken, it may be useful to note that by Section 41 of the Public Health Act, 1875 (which does not apply to London), a local authority may deal with the insanitary condition of any premises within their district, and may recover from the owner any expenses thereby incurred. Then as to furnished houses. It is an implied condition in every hiring of a furnished house that it shall be in good and tenantable condition; and if a tenant having taken a furnished house for a term finds on entry that its condition is insanitary—e.g., if there is a filthy cesspool below the house or if the drainage is defective—he is relieved from his contract and he is not liable for the payment of any rent. As to unfurnished houses, the rateable value of which does not exceed £30 a year in London, £13 in Liverpool, £10 in Manchester and Birmingham, £8 elsewhere in England and Wales, and £4 in Ireland and Scotland, sec. 75 of the 53rd and 54th Vic., c. 70, lays down "that there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation," but the limitation in the amount of rent, which appeared also in an earlier Act, was disregarded in the case of Walker and Hobbs, in which it was held that "a tenant has, under this section, a right to sue his landlord for damage for injuries caused by the premises not being reasonably fit for human habitation owing to any defective state of repair." With much greater force would this apply to the case of a furnished house. I am, Sirs, yours truly,

London, Feb. 6th, 1893. BERNARD O'CONNOR.

MALARIA IN CUBA.

IN a paper on Malarial Fever in Cuba, by Drs. Coronado and Madan, which is published in the *Revista de Ciencias Medicas* of Havana, mention is made of the serious consequences which have followed the opening up of the streets of that city during the spring of last year for the purpose of laying sewers. The subsoil is largely impregnated with vegetable matter, and this, exposed first to rain and then to sunshine, set up conditions highly favourable to the production of malaria. Drs. Coronado and Madan have had extensive practice in marshy districts of the island and they find that febrile states due to simple malarial infection are devoid of gravity and are readily cured by simple treatment with quinine, arsenic, tincture of iodine, methylene blue, tonics, hydro-therapeutic measures, and mere change of locality, or may even disappear without any treatment at all.

WE hear that a French journal gives it on the authority of an eminent London doctor, "Sir Harley Street," that we may expect the cholera again during the present year.

MEDICAL ADVERTISING IN BRIGHTON.

THE following is a remarkable card to proceed from one appending "M.D." to his name and "Late Surgeon-Major." Comment would be superfluous.

"Trafalgar-street Surgery and Pharmacy, No. 8. Telegrams received before 1 o'clock attended to the same afternoon. Free Medical Advice at 10 A.M. and from 7 to 9 P.M. daily (by a duly Registered and Qualified Physician and Surgeon). Surgery Charges: Visits, 1/-; Teeth Extracted, 1/-; Ditto (Painless), 2/-; Midwifery, from 10/6; Vaccination (Wedn. at 3) from 1/-. Medicine: Children, 6d.; Adults, 6d., 9d., 1/-, 1/6, as required. D. Thorburn, M.D., L.R.C.S. (late Surgeon-Major), in attendance. Private Address—Alpha House, Pelham Sq., Brighton."

Colonial.—Advice should be sought from a physician.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers give me a suggestion for the treatment of the case of a lady at about the time of the climacteric, who has for years suffered from an erythematous rash on the neck, face and exposed parts of the hands and wrists? In the latter situation it is herpetic in character. The rash is very irritable, is produced by exposure to sunlight and also occasionally from the effects of easterly winds, usually commences to appear about May and disappears spontaneously in October. There is nothing to suggest gout, and the urine is normal. She is married, has a family, was probably hysterical as a girl and is generally of a nervous temperament. Arsenic, sulphur, belladonna and the free use of water internally have been tried among other things without effect. I am, Sirs, yours faithfully,

Feb. 10th, 1893. J. G.

*** From the description of the symptoms it would be difficult to form a precise diagnosis of the nature of the affection. It might be an urticaria or a hydroa herpetiforme or some anomalous rash. A well-considered course of general treatment, which could only be laid down after a thorough examination had been made of the patient and her surroundings, would probably be advisable; but recurrent seasonal affections are always difficult to treat.—ED. L.

ALARMING RESULTS FROM INSECT BITE.

To the Editors of THE LANCET.

SIRS,—During the severe frost just after Christmas a lady patient of mine was placing a lamp in a loft where the cistern is situated, the water being frozen. While doing so she felt some insect run across her hand and she brushed it off. On going downstairs she discovered a "large white bump," which itched considerably. Next morning a vesicle appeared in the centre of the bump, and gradually increased to the size of a shilling. The hand and arm were much inflamed and swollen. The vesicle became purulent and broke, leaving an unhealthy painful sore. It was nearly three weeks before this healed, and it has left a considerable scar.

May I ask what insect could have bitten her at that time of the year (January) A friend of hers suggested that it was a blackbeetle, quoting a similar case that she knew of, which, she said, was proved to be a blackbeetle bite. Is the bite of a blackbeetle venomous? and, if not, what insect could have caused the very extensive local inflammation I am, Sirs, yours truly,

Hampstead, N.W. G. HAY REYNOLDS, M.B.

*** The bite of any insect not normally venomous may become so by its jaws getting covered with some poisonous matter. Of this many instances have been recorded. The individual is also an important factor in the case, some persons being peculiarly susceptible to certain poisons. On the whole, it is probable that a *spider* was likely to have been the culprit in the case above recorded.—ED. L.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 23rd, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Feb. 17	29·97	W.	38	37	73	51	36	·03	Cloudy
,, 18	30·06	S.W.	51	50	77	55	38	·02	Cloudy
,, 19	29·94	S.W.	49	48	86	58	47	·13	Bright
,, 20	29·62	S.W.	45	41	72	58	40	—	Bright
,, 21	28·77	S.W.	48	46	—	49	42	·20	Raining
,, 22	28·97	N.W.	40	39	—	40	38	·41	Raining
,, 23	29·44	N E	35	34	42	36	34	·25	Overcast

During the week marked copies of the following newspapers have been received:—*Leamington Advertiser, Thanet Guardian, Keble's Margate and Ramsgate Gazette, North-Eastern Daily Gazette, Daily News (Perth, Western Australia), Manx Sun (Douglas), Demerara Daily Chronicle, Daily Chronicle (Georgetown), Midland Daily Telegraph, Norfolk Standard, South Wales Echo, Bath Chronicle, Coventry Times, Western Morning News, Sussex News, Tasmanian Mail, Cambrian News, Harrogate Advertiser, Scotsman, Manchester Guardian, Glasgow Herald, Royal Cornwall Gazette, Richmond Herald, Norfolk Chronicle.*

Communications, Letters &c. have been received from—

A.—Dr. J. Althaus; Messrs. Allen and Hanburys, London.

B.—Dr. Bell, Bradford; Dr. Alfred G. Barrs, Leeds; Dr. Blake, Seymour street; Dr. W. R. Beveridge, Leith; Mr. Matt F. Blackiston, Staffs; Mr. Anthony A. Bowlby, London; Mr. T. Bell, Lancaster; Mr. H. Barford, Littlehampton; Commander Blount, R.N., London; Mr. H. W. Brazier, Aberdeen; Messrs. Burgoyne, Burbidges and Co., London; Messrs. Bruce and Co., Walham-green; Messrs. Brown, Gould and Co., London; Brander, Elgin; Bristol Dispensary.

C.—Dr. W. S. Crawford, Liverpool; Dr. J. M. Clarke, Clifton; Mr. Cheatle, London; Mr. Philip Cerda, London; Mr. W. H. Cook, Huddersfield; Mr. C. F. Caslor, British Guiana; Mr. J. Q. Couch, Cornwall; Messrs. Crossley, Moir and Co., London; County Clare Infirmary; Chichester Infirmary.

D.—Mr. N. C. Das, Wigan; Mr. Arthur C. De Renzi, Tooting; Mr. J. C. Davies, Plas-yn-Rhos; Digitalis, Southport; Director-General A.M.D., London; Densmore Typewriter Co.

E.—Dr. W. Easby, Peterborough; Mr. G. W. Eccles, Bloomsbury; Messrs. Eason and Son, Dublin.

F.—Mr. G. Foy, Dublin; Mr. N. Hay Forbes, Tunbridge Wells.

G.—Dr. J. M. Granville, London; Dr. J. Gilroy, Ecclefechan; Mr. Wm. G. Groves, Woodford; Mr. Wm. T. Grant, London.

H.—Dr. J. R. Hutton, Scarborough; Dr. J. Holmes, Manchester; Mr. Worsley J. Harris, Hastings; Mr. Chas. J. Holton, London; Mr. Richard Holton, Staffs; Mr. John Hislop, Devon; Mr. J. E. Henbeck, Rochdale; Messrs. J. Haddon and Co., London; Messrs. Humphreys, Knightsbridge; H., London; *Health*, Editor of, Belfast; H. R. G.

J.—Dr. C. S. Jeaffreson, Newcastle-on-Tyne; Mr. W. H. Jalland, Yorks; Mr. W. W. Jones, London.

K.—Dr. Kuhner, Frankfort-on-Maine; Mr. E. W. Kendall, Bourton-on-the-Water; Messrs. Kelly and Co, London.

L.—Dr. J. F. Little, London; Dr. R. H. Lloyd, London; Dr. J Limont, Newcastle-on-Tyne; Mr. F. G. Lawrence, Cambridge; Mr. Lewis, London; Mr. D. Lowson, Hull; Mr. J. Haythorne Latcham, Clifton; Mr. W. W. Leigh, Treharris; Mr. Henry Maule, London; Messrs. D. Lennox and Son, Dumfries; Messrs. E. and S. Livingstone, Edinburgh; Liquor Carnis Co., London; Leeds Hospital for Women, &c.; L.R.C.P., L.R.C.S.E.

M.—Dr. J. Miller, Nottingham; Mr. Chas. A. Morton, Clifton; Mr. Marshall, London; Mr. J. Mackie, Alexandria; Mr. Milner, Kennington; Mr. C. B. Mather, Lake Tanganiyka; Mr. H. Morris, Westminster; Mr. G. L. Moore, London; Messrs. Margrave Bros., Llanelly; M A., London; Maltine Manufacturing Co., London; M.R.C.P.; Morrhuol, London.

N.—Dr. E. J. Neathery, Texas.

P.—Dr. Sidney Phillips, London; Dr. Leslie Phillips, London; Dr. Chas. Porter, Stockport; Mr. J. Petrie, London; Mr. Greenwood Pimm, London; Mr. C. W. Price, Cardiff; Mr. J. M. Pardey, Tasmania; Mr. Y. J. Pentland, Edinburgh; Mr. Puleen, London; Pharmacist; The Pelham Press, London; Preston County Asylum.

R.—Dr. C. H. Ralfe, London; Dr. G. Hay Reynolds, Hampstead; Dr. M. A. Ruffer, London; Mr. C. Ricker, St. Petersburg; Mr. A. Rendle, Plymouth; Mr. T. T. Ramsay, Blackburn; Mr. W. Robertson, Newcastle-on-Tyne; Resident, London; Royal Free Hospital, London.

S.—Sir Edwin Saunders, London; Dr. Robt. Saundby, Birmingham; Dr. W. Ramsay Smith, Edinburgh; Dr. W. M. Smith, Eastbourne; Surg.-Capt. R. R. Sleman, London; Mr. Henry Sewill, London; Mr. J. Hampden Shoveller, London; Mr. J. Scott, Belfast; Mr. A. Marmaduke Sheild, London; Mr. A. Stenhouse, Glasgow; Messrs. G. Street and Co., London; Student; St. John's Hospital for Diseases of the Skin; Special Position Advertising Co., London; Stamford Union; Solicitor, London; Scotichronicon.

T.—Dr. W. Tresidder, Nottingham; Dr. Taylor, Nottingham; Mr. R. Stanley Thomas, Plymouth

U.—Ultra, London.

V.—Sir Somers Vine, London; Dr. Francesco Vallardi, Milan; Mr. W. S. Vanneman, Tabriz, Persia.

W.—Dr. Arthur Whitelegge, Wakefield; Dr. A. E. Wright, Netley; Mr. Rivers Willson, Oxford; Mr. D. B. Walkington, Belfast; Mr. Campbell Williams, London; Messrs. Whitworth and Stuart, Manchester.

Y.—Yorkshire College, Leeds; York County Hospital.

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